KYOCERA

DP-750/DP-750(B)
DP-760/DP-760(B)

SERVICE MANUAL

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CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

It may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for proper disposal.

ATTENTION

IL Y A UN RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACEE PAR UN MODELE DE TYPE INCORRECT. METTRE AU REBUT LES BATTERIES UTILISEES SELON LES INSTRUCTIONS DONNEES.

Il peut être illégal de jeter les batteries dans des eaux d'égout municipales. Vérifiez avec les fonctionnaires municipaux de votre région pour les détails concernant des déchets solides et une mise au rebut appropriée.

Revision history

Revision	Date	Replaced pages	Remarks
1	November 26, 2008	1-3-2, 1-3-3, 1-3-5, 1-3-8, 1-3-13, 1-3-17 to 1-3-19, 2-4-1	-
2	August 6, 2009	CONTENTS, 1-1-1, 1-2-1, 1-3-1, 1-3-23 to 1-3-46, 1-4-2 to 1-4-5, 1-5-10, 1-6-1	-
3	November 26, 2009	1-1-1, 1-3-3, 1-3-4, 1-3-8, 1-3-10 to 1-3-12, 1-4-2, 1-4-3, 2-4-1 to 2-4-3	-

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Safety precautions

This booklet provides safety warnings and precautions for our service personnel to ensure the safety of their customers, their machines as well as themselves during maintenance activities. Service personnel are advised to read this booklet carefully to familiarize themselves with the warnings and precautions described here before engaging in maintenance activities.

Safety warnings and precautions

Various symbols are used to protect our service personnel and customers from physical danger and to prevent damage to their property. These symbols are described below:

⚠**DANGER:** High risk of serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

⚠**WARNING:** Serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

⚠**CAUTION:** Bodily injury or damage to property may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

Symbols

The triangle (△) symbol indicates a warning including danger and caution. The specific point of attention is shown inside the symbol.

General warning.

Warning of risk of electric shock.

Warning of high temperature.

⃠ indicates a prohibited action. The specific prohibition is shown inside the symbol.

General prohibited action.

Disassembly prohibited.

● indicates that action is required. The specific action required is shown inside the symbol.

General action required.

Remove the power plug from the wall outlet.

Always ground the copier.

1.Installation Precautions

⚠WARNING

- Do not use a power supply with a voltage other than that specified. Avoid multiple connections to one outlet: they may cause fire or electric shock. When using an extension cable, always check that it is adequate for the rated current. .....

- Connect the ground wire to a suitable grounding point. Not grounding the copier may cause fire or electric shock. Connecting the earth wire to an object not approved for the purpose may cause explosion or electric shock. Never connect the ground cable to any of the following: gas pipes, lightning rods, ground cables for telephone lines and water pipes or faucets not approved by the proper authorities. .....

⚠CAUTION:

- Do not place the copier on an infirm or angled surface: the copier may tip over, causing injury. .....

- Do not install the copier in a humid or dusty place. This may cause fire or electric shock. .....

- Do not install the copier near a radiator, heater, other heat source or near flammable material.

  This may cause fire. .....

- Allow sufficient space around the copier to allow the ventilation grills to keep the machine as cool as possible. Insufficient ventilation may cause heat buildup and poor copying performance. .....

- Always handle the machine by the correct locations when moving it. .....

- Always use anti-toppling and locking devices on copiers so equipped. Failure to do this may cause the copier to move unexpectedly or topple, leading to injury. .....

- Avoid inhaling toner or developer excessively. Protect the eyes. If toner or developer is accidentally ingested, drink a lot of water to dilute it in the stomach and obtain medical attention immediately. If it gets into the eyes, rinse immediately with copious amounts of water and obtain medical attention. .....

- Advice customers that they must always follow the safety warnings and precautions in the copier's instruction handbook. .....

2.Precautions for Maintenance

⚠WARNING

- Always remove the power plug from the wall outlet before starting machine disassembly. .....

- Always follow the procedures for maintenance described in the service manual and other related brochures. .....

- Under no circumstances attempt to bypass or disable safety features including safety mechanisms and protective circuits. .....

- Always use parts having the correct specifications. .....
- Always use the thermostat or thermal fuse specified in the service manual or other related brochure when replacing them. Using a piece of wire, for example, could lead to fire or other serious accident. .....

- When the service manual or other serious brochure specifies a distance or gap for installation of a part, always use the correct scale and measure carefully. .....

- Always check that the copier is correctly connected to an outlet with a ground connection. .....
- Check that the power cable covering is free of damage. Check that the power plug is dust-free. If it is dirty, clean it to remove the risk of fire or electric shock. .....

- Never attempt to disassemble the optical unit in machines using lasers. Leaking laser light may damage eyesight. .....

- Handle the charger sections with care. They are charged to high potentials and may cause electric shock if handled improperly. .....

⚠CAUTION

- Wear safe clothing. If wearing loose clothing or accessories such as ties, make sure they are safely secured so they will not be caught in rotating sections. .....

- Use utmost caution when working on a powered machine. Keep away from chains and belts. .....

- Handle the fixing section with care to avoid burns as it can be extremely hot. .....
- Check that the fixing unit thermistor, heat and press rollers are clean. Dirt on them can cause abnormally high temperatures. .....

- Do not remove the ozone filter, if any, from the copier except for routine replacement. .....

- Do not pull on the AC power cord or connector wires on high-voltage components when removing them; always hold the plug itself. .....

- Do not route the power cable where it may be stood on or trapped. If necessary, protect it with a cable cover or other appropriate item. .....

- Treat the ends of the wire carefully when installing a new charger wire to avoid electric leaks. .....

- Remove toner completely from electronic components. .....

- Run wire harnesses carefully so that wires will not be trapped or damaged. .....
- After maintenance, always check that all the parts, screws, connectors and wires that were removed, have been refitted correctly. Special attention should be paid to any forgotten connector, trapped wire and missing screws. .....

- Check that all the caution labels that should be present on the machine according to the instruction handbook are clean and not peeling. Replace with new ones if necessary. .....

- Handle greases and solvents with care by following the instructions below: .....
  · Use only a small amount of solvent at a time, being careful not to spill. Wipe spills off completely.
  · Ventilate the room well while using grease or solvents.
  · Allow applied solvents to evaporate completely before refitting the covers or turning the power switch on.
  · Always wash hands afterwards.

- Never dispose of toner or toner bottles in fire. Toner may cause sparks when exposed directly to fire in a furnace, etc. .....

- Should smoke be seen coming from the copier, remove the power plug from the wall outlet immediately. .....

3.Miscellaneous

⚠WARNING

- Never attempt to heat the drum or expose it to any organic solvents such as alcohol, other than the specified refiner; it may generate toxic gas. .....

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1-1-1 Specifications

Original feed method	Automatic feed
Supported original type	Sheet originals
Original size	Maximum: A3/Ledger Mimimum: A5R/StatementR
Original weight	45 to 160 g/m^2
Loading capacity	100 sheets (50 to 80 g/m^2) maximum Mixed original sizes (auto selection): 30 sheets (50 to 80 g/m^2) maximum
Power source	Electrically connected to the machine.
Dimensions	577 (W) x 534 (D) x 180 (H) mm 22 11/16" (W) x 21" (D) x 7 1/16" (H)
Weight	Reversed DP: 14 kg or less/30.8 lbs. or less Dual scan DP: 14 kg or less/30.8 lbs. or less

NOTE: These specifications are subject to change without notice.

1-1-2 Parts names

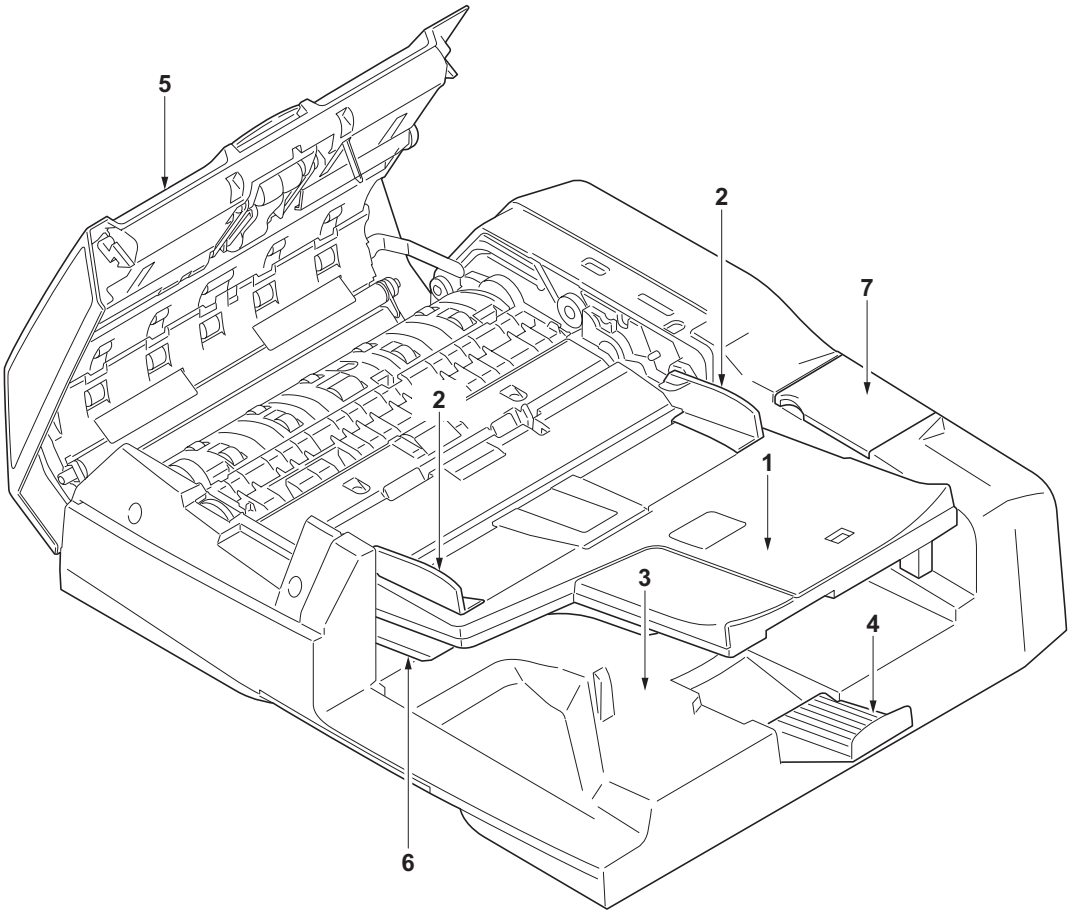

Figure 1-1-1

1. Original tray
2. Original width guides
3. Original eject table
4. Original stopper
5. DP top cover
6. Switchback tray
7. Cleaning cloth compartment

1-1-3 Machine cross section

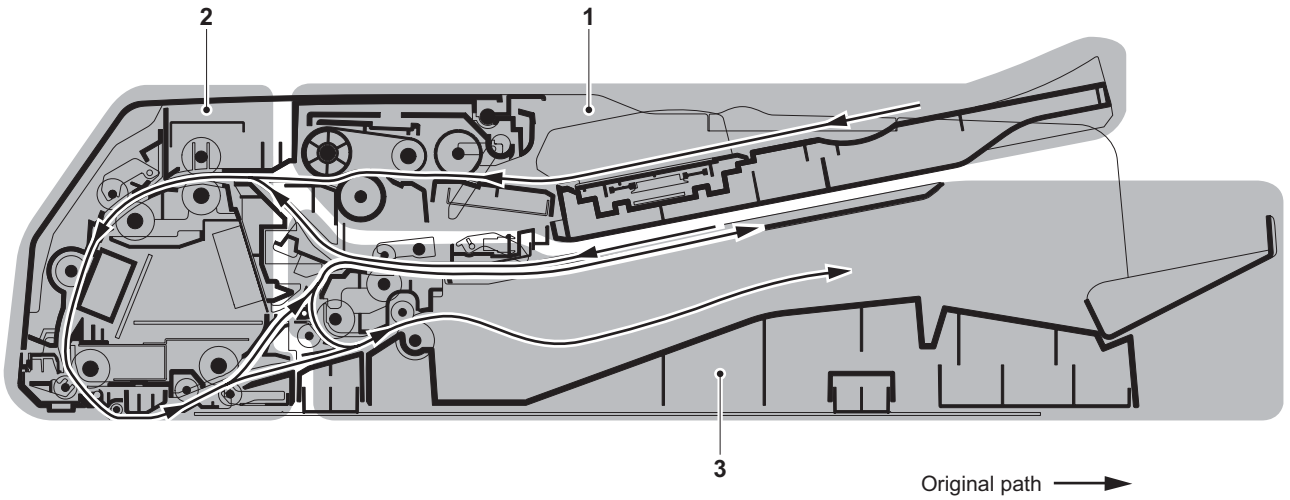

Figure 1-1-2 Machine cross section

1. Original feed section
2. Original conveying section
3. Original switchback/eject sections

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1-2-1 Installation environment

Installation location (Be based on the machine establishment place.)
Avoid direct sunlight or bright lighting. Ensure that the photoconductor will not be exposed to direct sunlight or other strong light when removing paper jams.
Avoid locations subject to high temperature and high humidity or low temperature and low humidity; an abrupt change in the environmental temperature; and cool or hot, direct air.
Avoid places subject to dust and vibrations.
Choose a surface capable of supporting the weight of the machine.
Place the machine on a level surface (maximum allowance inclination: 1°).
Avoid air-borne substances that may adversely affect the machine or degrade the photoconductor, such as mercury, acidic of alkaline vapors, inorganic gasses, NOx, SOx gases and chlorine-based organic solvents.
Select a well-ventilated location.

1-2-2 Unpacking

(1) Unpacking

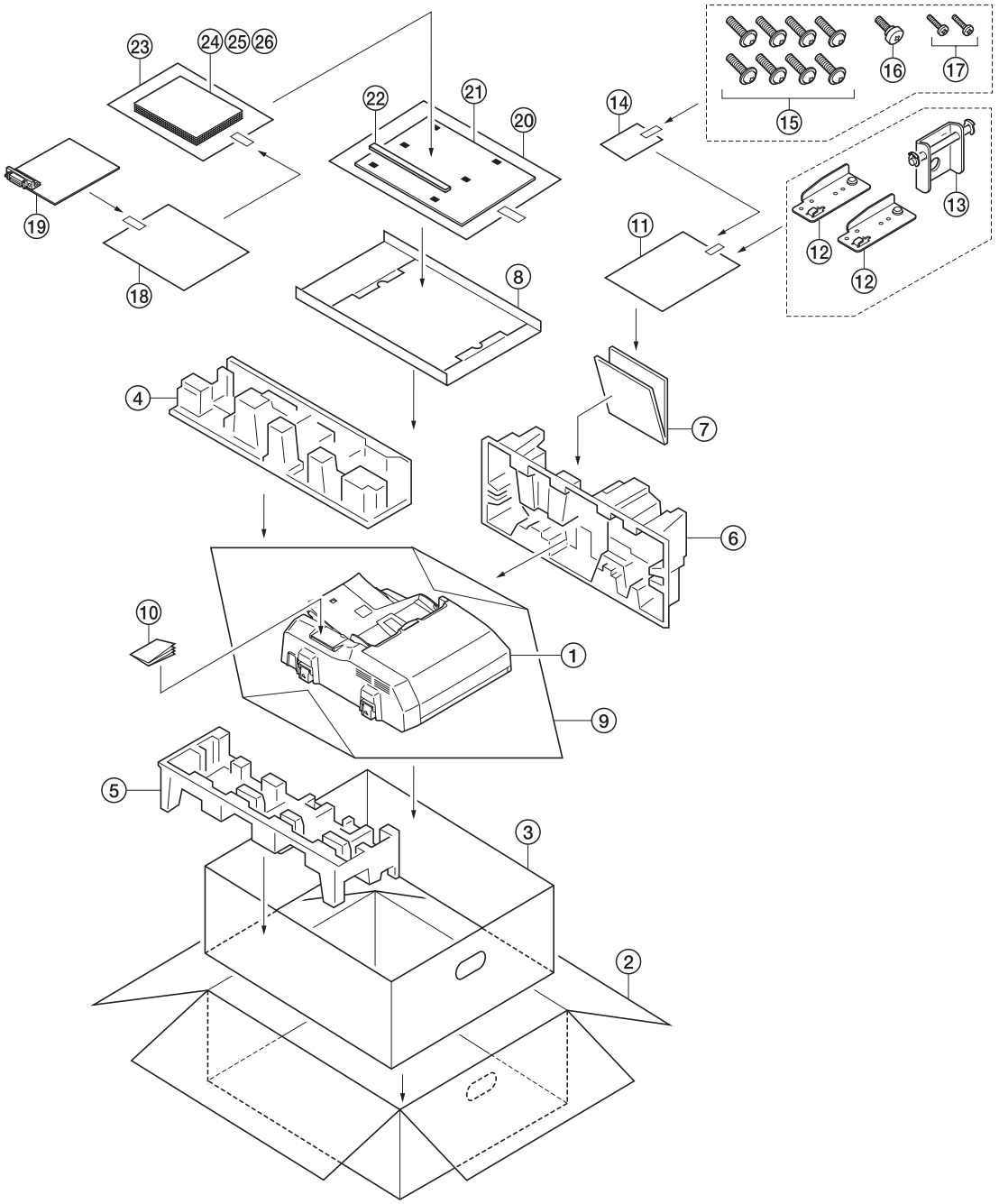

Figure 1-2-1 Unpacking

1. Document processor
2. Outer case
3. Inner frame
4. Rear top pad
5. Rear bottom pad
6. Front pad
7. Accessory case
8. Original mat holder
9. Plastic sheet
10. Cleaning cloth
11. Air-padded bag
12. Fixing fittings
13. Angle control fitting
14. Plastic bag
15. M4 x 14 TP screws
16. Pin
17. M2.6 x 8 TP screws*
18. Air-padded bag*
19. DP relay PWB*
20. Plastic bag
21. Original mat
22. Gasket
23. Plastic bag
24. Installation guide
25. Operation procedure label
26. Original face up label

*: Dual scan DP only.

Caution: See the Installation Guide for installation.

(2) Remove the tapes and pad

Procedure

1. Remove five tapes.

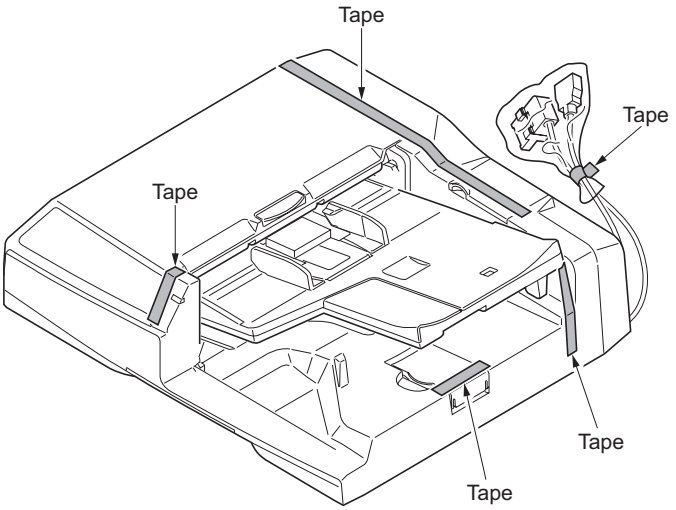

Figure 1-2-2

2. Open the DP top cover and original width guides.
3. Remove the pad.

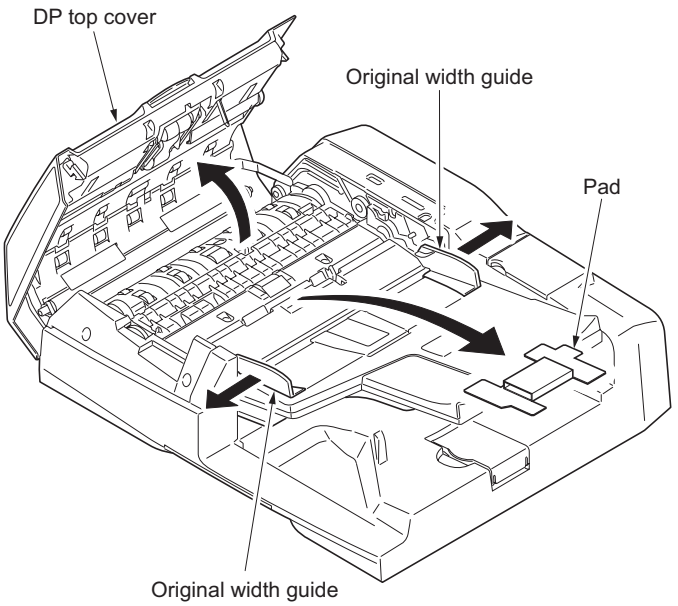

Figure 1-2-3

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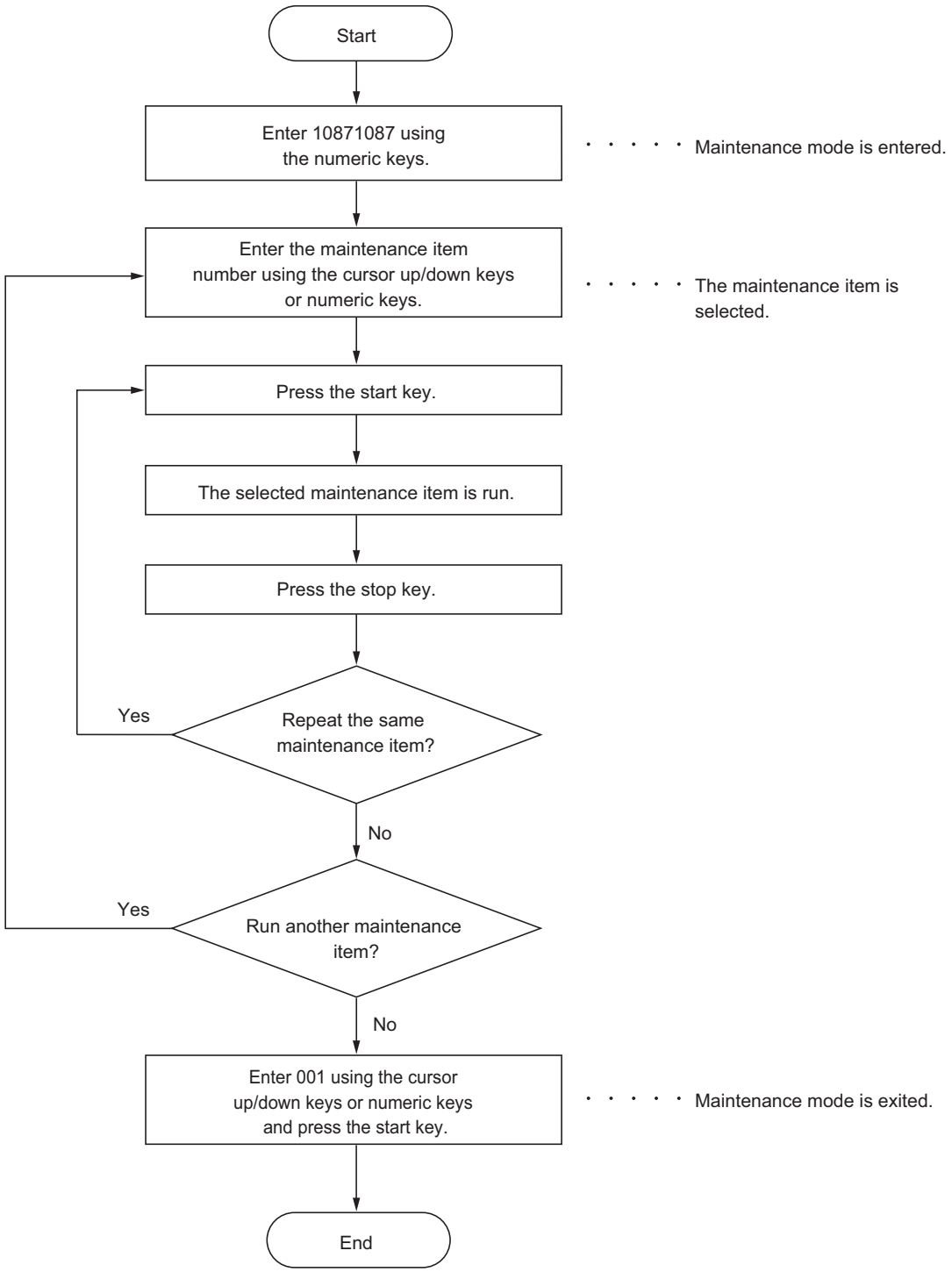
1-3-1 Maintenance mode (fullcolor machine)

The machine is equipped with a maintenance function which can be used to maintain and service the machine.

(1) Executing a maintenance item


Start
Enter 10871087 using the numeric keys.
Maintenance mode is entered.
Enter the maintenance item number using the cursor up/down keys or numeric keys.
The maintenance item is selected.
Press the start key.
The selected maintenance item is run.
Press the stop key.
Repeat the same maintenance item?
Yes
No
Run another maintenance item?
Yes
No
Enter 001 using the cursor up/down keys or numeric keys and press the start key.
Maintenance mode is exited.
End

(2) Maintenance mode item list

Section	Item No.	Content of maintenance item	Initial setting*
General	U019	Displaying the ROM version	-
Optical	U061	Checking the operation of the exposure lamp	-
	U068	Adjusting the scanning position for originals from the DP	0/0
	U070	Adjusting the DP magnification	0/0/0/0
	U071	Adjusting the DP scanning timing	0/0/0/0/0/0
	U072	Adjusting the DP center line	0/0/0
	U087	Setting DP reading position modification operation	145/145/145
	U091	Setting the white line correction	
Operation panel and support equipment	U203	Operating the DP separately	-
	U243	Checking the operation of the DP motors	-
	U244	Checking the DP switches	-
Mode setting	U326	Setting the black line cleaning indication	ON*1/8
Image processing	U404	Adjusting margins for scanning an original from the DP	3.0/2.5/3.0/4.0/ 3.0/2.5/3.0/4.0
	U411	Adjusting the scanner automatically	-
	U425	Setting the target	-
Other	U905	Checking counts by optional devices	-
	U942	Setting of deflection for feeding from DP	0/0/0
	U990	Checking/clearing the time for the exposure lamp to light	-

*Initial setting for executing U020, *1: The item initialized for executing U021

(3) Contents of maintenance mode items

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U019</td><td>
Displaying the ROM version
Description
Displays the part number of the ROM fitted to each PWB.
Purpose
To check the part number or to decide, if the newest version of ROM is installed.

Method
1. Press the start key. The ROM version are displayed.
2. Change the screen using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MAIN</td><td>Main ROM</td></tr>
<tr><td>MMI</td><td>Operation ROM</td></tr>
<tr><td>ENGINE</td><td>Engine ROM</td></tr>
<tr><td>ENGINE BOOT</td><td>Engine booting</td></tr>
<tr><td>SCANNER</td><td>Scanner ROM</td></tr>
<tr><td>BROWSER</td><td>Browser ROM</td></tr>
<tr><td>OPTION LANGUAGE</td><td>Optional language ROM</td></tr>
<tr><td>DICTIONARY</td><td>-</td></tr>
<tr><td>DBA</td><td>Database connection</td></tr>
<tr><td>Solution Framework</td><td>Framework</td></tr>
<tr><td>COLOR TABLE1</td><td>Color table1</td></tr>
<tr><td>COLOR TABLE2</td><td>Color table2</td></tr>
<tr><td>MOTOR CPU</td><td>Motor CPU</td></tr>
<tr><td>MOTOR CPU BOOT</td><td>Motor CPU booting</td></tr>
<tr><td>H VLT CPU</td><td>High voltage CPU</td></tr>
<tr><td>H VLT CPU BOOT</td><td>High voltage CPU booting</td></tr>
<tr><td>SLEEP CPU</td><td>Sleep CPU</td></tr>
<tr><td>SLEEP CPU BOOT</td><td>Sleep CPU booting</td></tr>
<tr><td>DP</td><td>Optional DP ROM</td></tr>
<tr><td>500x2PF</td><td>Optional paper feeder ROM</td></tr>
<tr><td>3000PF</td><td>Optional 3000-sheet paper feeder ROM</td></tr>
<tr><td>1000DF</td><td>Optional document finisher ROM</td></tr>
<tr><td>3000DF MAIN</td><td>Optional 3000-sheet document finisher main ROM</td></tr>
<tr><td>3000DF MIDDLE</td><td>Optional 3000-sheet document finisher Inner tray ROM</td></tr>
<tr><td>MAIL BOX</td><td>Optional mailbox ROM</td></tr>
<tr><td>BOOKLET</td><td>Optional center-folding unit ROM</td></tr>
<tr><td>FAX BOOT1</td><td>Optional fax control PWB booting (port 1)</td></tr>
<tr><td>FAX APL1</td><td>Optional fax control PWB APL (port 1)</td></tr>
<tr><td>FAX IPL1</td><td>Optional fax control PWB IPL (port 1)</td></tr>
<tr><td>FAX BOOT2</td><td>Fax control PWB booting (port 2: optional dual FAX)</td></tr>
<tr><td>FAX APL2</td><td>Fax control PWB APL (port 2: optional dual FAX)</td></tr>
<tr><td>FAX IPL2</td><td>Fax control PWB IPL (port 2: optional dual FAX)</td></tr>
</table>
Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U061</td><td>
Checking the operation of the exposure lamp
Description
Lights the exposure lamp.
Purpose
To check whether the exposure lamp are turned ON.
Method
1. Press the start key.
2. Select the item.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>CCD</td><td>The exposure lamp lights</td></tr>
<tr><td>CIS</td><td>The CIS lights (when dual scan DP is installed)</td></tr>
</table>
3. Press the start key. The lamp lights.
4. To turn the lamp off, press the stop key.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U068</td><td>
Adjusting the scanning position for originals from the DP
Description
Adjusts the position for scanning originals from the DP. Performs the test copy at the four scanning positions after adjusting.
Purpose
Used when the image fogging occurs because the scanning position is not proper when the DP is used. Run U071 to adjust the timing of DP leading edge when the scanning position is changed.
Setting
1. Press the start key.
40/40, 50/40 ppm model
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr>
<tr><td>ADJUST DATA</td><td>Starting position adjustment for scanning originals</td><td>-55 to 55</td><td>0</td><td>0.113 mm</td></tr>
<tr><td>TEST POSITION</td><td>Scanning position for the test copy originals</td><td>0 to 3</td><td>0</td><td>-</td></tr>
</table>
25/25, 30/30, 55/50 ppm model
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr>
<tr><td>ADJUST DATA</td><td>Starting position adjustment for scanning originals</td><td>-70 to 70</td><td>0</td><td>0.085 mm</td></tr>
<tr><td>TEST POSITION</td><td>Scanning position for the test copy originals</td><td>0 to 3</td><td>0</td><td>-</td></tr>
</table>
2. Select [ADJUST DATA] of the screen for selecting an item.
3. Change the setting using the +/- or numeric keys.
When the setting value is increased, the scanning position moves to the right and it moves to the left when the setting value is decreased.
4. Press the start key. The value is set.
5. Select [TEST POSITION] of the screen for selecting an item.
6. Select the scanning position using the +/- or numeric keys.
7. Press the start key. The value is set.
8. Set the original (the one which density is known) in the DP and press the system menu key. The screen for the test copy mode is displayed.
9. Press the start key. Test copy is executed.
10. Perform the test copy at each scanning position with the setting value from 0 to 3 and check that no black line appears and the image is normally scanned.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U070	**Adjusting the DP magnification** **Description** Adjusts the DP original scanning speed. **Purpose** Make the adjustment if the magnification is incorrect in the auxiliary scanning direction when the DP is used. **Adjustment** 1. Press the start key. 2. Select the item to be adjusted.

Display	Description	Setting range	Initial setting	Change in value per step
CONVEY SPEED1	Magnification in the auxiliary scanning direction of CCD (first side)	-25 to 25	0	0.1 %
CONVEY SPEED2	Magnification in the auxiliary scanning direction of CCD (second side)	-25 to 25	0	0.1 %
CIS MAIN ADJ*	Magnification in the main scanning direction of CIS	-20 to 20	0	0.1 %
CIS SUB ADJ*	Magnification in the auxiliary scanning direction of CIS	-50 to 50	0	0.05 %

*: Dual scan DP only.

3. Press the system menu key.
4. Place an original on the DP and press the start key to make a test copy.
5. Press the system menu key.
6. Change the setting value using the +/- or numeric keys.
   For copy example 1, increase the value. For copy example 2, decrease the value.

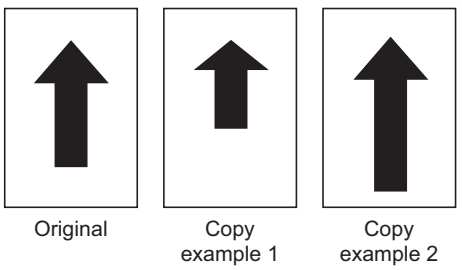
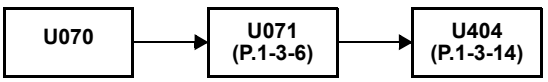


Figure 1-3-1

7. Press the start key. The value is set.

Caution
Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode.



Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U071	**Adjusting the DP scanning timing** **Description** Adjusts the DP original scanning timing. **Purpose** Make the adjustment if there is a regular error between the leading or trailing edges of the original and the copy image when the DP is used. **Method** 1. Press the start key. 2. Select the item to be adjusted.

Display	Description	Setting range	Initial setting	Change in value per step
ADJUST DATA1	Leading edge registration of CCD (first side)	-32 to 32	0	0.174 mm
ADJUST DATA2	Trailing edge registration of CCD (first side)	-32 to 28	0	0.174 mm
ADJUST DATA3	Leading edge registration of CCD (second side)	-32 to 32	0	0.174 mm
ADJUST DATA4	Trailing edge registration of CCD (second side)	-32 to 32	0	0.174 mm
ADJUST DATA5*	Leading edge registration of CIS	-45 to 45	0	0.174 mm
ADJUST DATA6*	Trailing edge registration of CIS	-45 to 45	0	0.174 mm

*: Dual scan DP only.

Adjustment: Leading edge registration
1. Press the system menu key.
2. Place an original on the DP and press the start key to make a test copy.
3. Press the system menu key.
4. Change the setting value using the +/- or numeric keys.
   For copy example 1, increase the value. For copy example 2, decrease the value.

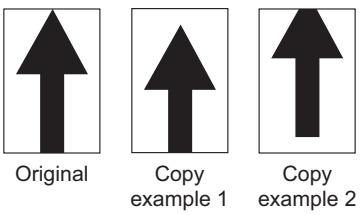
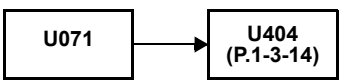
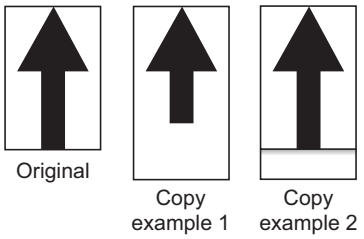


Figure 1-3-2

5. Press the start key. The value is set.

Caution
If the CCD first side is adjusted, check the CCD second side and if adjustment is required, carry out the adjustment.
Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode.



Maintenance item No.	Description
U071	**Adjustment: Trailing edge registration** 1. Press the system menu key. 2. Place an original on the DP and press the start key to make a test copy. 3. Press the system menu key. 4. Change the setting value using the +/- or numeric keys. For copy example 1, increase the value. For copy example 2, decrease the value.  **Figure 1-3-3** 5. Press the start key. The value is set. **Caution** If the CCD first side is adjusted, check the CCD second side and if adjustment is required, carry out the adjustment. Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode. **U071** → **U404 (P.1-3-14)** **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U072	**Adjusting the DP center line** **Description** Adjusts the scanning start position for the DP original. **Purpose** Make the adjustment if there is a regular error between the centers of the original and the copy image when the DP is used. **Adjustment** 1. Press the start key. 2. Select the item to be adjusted. 40/40, 50/40 ppm model

Display	Description	Setting range	Initial setting	Change in value per step
ADJUST DATA1	DP center line of CCD (first side)	-35 to 60	0	0.085 mm
ADJUST DATA2	DP center line of CCD (second side)	-35 to 60	0	0.085 mm
ADJUST DATA3*	DP center line of CIS	-39 to 39	0	0.085 mm

25/25, 30/30, 55/50 ppm model

Display	Description	Setting range	Initial setting	Change in value per step
ADJUST DATA1	DP center line of CCD (first side)	-40 to 40	0	0.085 mm
ADJUST DATA2	DP center line of CCD (second side)	-40 to 40	0	0.085 mm
ADJUST DATA3*	DP center line of CIS	-39 to 39	0	0.085 mm

*: Dual scan DP only.

3. Press the system menu key.
4. Place an original on the DP and press the start key to make a test copy.
5. Press the system menu key.
6. Change the setting value using the +/- or numeric keys.
   For copy example 1, increase the value. For copy example 2, decrease the value.

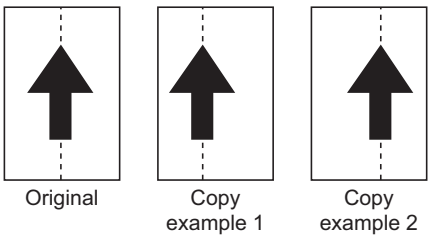
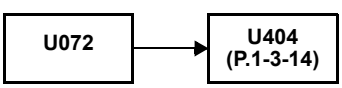


Figure 1-3-4

7. Press the start key. The value is set.

Caution
If the CCD first side is adjusted, check the CCD second side and if adjustment is required, carry out the adjustment.
Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode.



Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U087	**Setting DP reading position modification operation** **Description** The presence or absence of dust is determined by comparing the scan data of the original trailing edge and that taken after the original is conveyed past the DP original scanning position. If dust is identified, the DP original scanning position is adjusted for the following originals. **Purpose** When using DP, to solve the problem when black lines occurs due to the dust with respect to original reading position. **Method** 1. Press the start key. 2. Select the item to be set. **Setting: [CCD]** 1. Select the item to be set. 2. Change the value using the +/- or numeric keys. 3. Press the start key. The value is set. **Method: [BLACK LINE]** 1. Select [CLEAR]. 2. Press the start key. The setting is cleared. **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.

Display	Description
CCD	Setting of standard data when dust is detected.
BLACK LINE	Initialization of original reading position.

Display	Description	Setting range	Initial setting
CCD R	Lowest density of the R regard as the dust	0 to 255	145
CCD G	Lowest density of the G regard as the dust	0 to 255	145
CCD B	Lowest density of the B regard as the dust	0 to 255	145

Maintenance item No.	Description
U091	**Setting the white line correction** **Description** Sets the error detection threshold value for white line correction and displays the count result of abnormal pixels. **Purpose** To perform when replacing the CIS, DP driver PWB or CIS roller. **Method: white line correction** 1. Press the start key. 2. Press [EXECUTE]. 3. Press the start key. Holding of white reference data is started. 4. The count result of abnormal pixels is displayed.

Display	Description
Calculation(R)	Abnormal pixel count result for color R
Calculation(G)	Abnormal pixel count result for color G
Calculation(B)	Abnormal pixel count result for color B

5. Press the system menu key.
6. Place a gray original on the DP with the gray side down. Load paper in the cassette.
   The paper should be the same size as the original.
7. Press the start key.
   Two test pattern sheets will be printed. (1st sheet: blank sheet, 2nd sheet: Approx. 60 mm black band)
8. If no vertical lines appear on either sheet, the setting has been completed normally.
   If vertical black lines appear on the blank sheet and vertical white lines appear in the black band in the same position, clean the CIS roller and the CIS glass and then repeat white line correction.
   If vertical black lines or vertical white lines appear on both sheets, white line correction has been completed normally. However, the cause of the vertical lines lies in the engine, and thus the engine must be checked.

How to view test copies

blank sheet	black band	Causes	Corrective measures
No lines	No lines	-	Complete
Black lines	White lines	Dirty CIS roller or CIS glass	Clean CIS roller or CIS glass and then perform U091 again
Black lines	No lines	Engine side	U091 ends, check engine
No lines	White lines	Engine side	U091 ends, check engine

Setting: Threshold value setting

1. Select the item to be set.
2. Change the value using the +/- or numeric keys.

Display	Description	Setting range	Initial setting
Threshold(R)	Displaying of abnormal pixel detection threshold value for color R	-	-
Threshold(G)	Displaying of abnormal pixel detection threshold value for color G	-	-
Threshold(Com)*	Setting of abnormal pixel detection threshold value for color	0 to 1023	112
Abnorm Pixel Threshold	Abnormal pixel threshold value setting	0 to 8191	75
MODE	Switching between white line correction mode ON/OFF	0: OFF/1: ON/ 2: Test mode	0

*: Normally the Threshold (Com) value should not be changed from 112, the initial setting.
If white lines appear even though the CIS roller and glass are not dirty, raise the set value.
If fine lines in some originals disappear, lower the set value.
Set within the range 50 to 200. (If set outside this range, the image may be affected.)

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U091</td><td>3. Press the start key. The value is set.
4. After changing the Threshold(Com) value, turn the main power switch off and on.
Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.</td></tr>
<tr><td>U203</td><td>Operating the DP separately
Description
Simulates the original conveying operation separately in the DP.
Purpose
To check the DP operation.

Method
1. Press the start key.
2. Place an original in the DP if running this simulation with paper.
3. Select the item to be operated.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>CCD ADP (NON P)</td><td>Without paper, single-sided original of CCD (continuous operation)</td><td>-</td><td>-</td></tr>
<tr><td>CCD ADP</td><td>With paper, single-sided original of CCD</td><td>-</td><td>-</td></tr>
<tr><td>CCD RADP (NON P)</td><td>Without paper, double-sided original of CCD (continuous operation)</td><td>-</td><td>-</td></tr>
<tr><td>CCD RADP</td><td>With paper, double-sided original of CCD</td><td>-</td><td>-</td></tr>
<tr><td>CIS RADP (NON P)*</td><td>Without paper, double-sided original of CIS (continuous operation)</td><td>-</td><td>-</td></tr>
<tr><td>CIS RADP*</td><td>With paper, double-sided original of CIS</td><td>-</td><td>-</td></tr>
<tr><td>SPEED</td><td>Switching between normal reading (600 dpi) and high-speed reading</td><td>0 (Normal)/ 1 (High-speed)</td><td>0</td></tr>
</table>
*: Dual scan DP only.
4. Press the start key. The operation starts.
5. To stop continuous operation, press the stop key.

Completion
Press the stop key when the operation stops. The screen for selecting a maintenance item No. is displayed.</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U243</td><td>
Checking the operation of the DP motors
Description
Turns the motors or solenoids in the DP on.
Purpose
To check the operation of the DP motors and solenoids.

Method
1. Press the start key.
2. Select the item to be operated.
3. Press the start key. The operation starts.
<table>
<tr><th>Display</th><th>Motor and solenoid</th><th>Operation</th></tr>
<tr><td>DP FEED MOT</td><td>Original feed motor (OFM)</td><td>In operation</td></tr>
<tr><td>DP CON MOT</td><td>Original conveying motor (OCM)</td><td>In operation</td></tr>
<tr><td>DP REV MOT</td><td>Original switchback motor (OSBM)</td><td>In operation</td></tr>
<tr><td>DP LIFT MOT</td><td>DP lift motor (DPLM)</td><td>In operation</td></tr>
<tr><td>DP REV PRS SOL</td><td>Switchback pressure solenoid (SBPSOL)</td><td>On for 0.5 s</td></tr>
<tr><td>DP REV BRCH SOL</td><td>Switchback feedshift solenoid (SBFSSOL)</td><td>On for 0.5 s</td></tr>
<tr><td>CIS FAN*</td><td>DP fan motor (DPFM)</td><td>In operation</td></tr>
</table>
*: Dual scan DP only.
4. To turn each motor off, press the stop key.

Completion
Press the stop key when operation stops. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U244</td><td>
Checking the DP switches
Description
Displays the status of the respective switches in the DP.
Purpose
To check if respective switches in the DP operate correctly.

Method
1. Press the start key.
2. Turn the respective switches on and off manually to check the status.
If the on-status of a switch is detected, the corresponding switch is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>FD SW</td><td>Original feed switch (OFSW)</td></tr>
<tr><td>REG SW</td><td>Original registration switch (ORSW)</td></tr>
<tr><td>TMG SW</td><td>DP timing switch 1 (DPTSW1)</td></tr>
<tr><td>EJT SW</td><td>Original eject switch (OESW)</td></tr>
<tr><td>TRY SW</td><td>Switchback tray switch (SBTSW)</td></tr>
<tr><td>SET SW</td><td>Original set switch (OSSW)</td></tr>
<tr><td>SZ SW A</td><td>Original size length switch (OSLSW)</td></tr>
<tr><td>L F U SW</td><td>Tray upper limit switch (TULSW)</td></tr>
<tr><td>L F L SW</td><td>Tray lower limit switch (TLLSW)</td></tr>
<tr><td>COV OP SW</td><td>DP interlock switch (DPILSW)</td></tr>
<tr><td>P OP SW</td><td>DP open/close switch (DPOCSW)</td></tr>
<tr><td>CIS SW*</td><td>DP timing switch 2 (DPTSW2)</td></tr>
</table>
*: Dual scan DP only.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U326	**Setting the black line cleaning indication** **Description** Sets whether to display the cleaning guidance when detecting the black line. **Purpose** Displays the cleaning guidance in order to make the call for service with the black line decrease by the rubbish on the contact glass when scanning from the DP. **Setting** 1. Press the start key. 2. Select the item to set. The screen for setting each item is displayed. **Setting: [BLACK LINE MODE]** 1. Select ON or OFF. Initial setting: ON Setting count value is displayed only if the setting is ON. 2. Press the start key. The setting is set. **Setting: [BLACK LINE COUNT]** 1. Change the setting value using the +/- or numeric keys. When setting is 0, the black line cleaning indication is displayed only if the black line is detected. 2. Press the start key. The value is set. **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.

Display	Description
BLACK LINE MODE	Black line cleaning guidance ON/OFF setting
BLACK LINE COUNT	Setting counts of the cleaning guidance indication

Display	Description
ON	Displays the cleaning guidance
OFF	Not to display the cleaning guidance

Display	Description	Setting range	Initial setting
COUNT	Setting counts of the cleaning guidance indication (x 1000 sheets)	0 to 255	8

Maintenance item No.	Description
U404	**Adjusting margins for scanning an original from the DP** **Description** Adjusts margins for scanning the original from the DP. **Purpose** Make the adjustment if margins are incorrect. **Caution** Before making this adjustment, ensure that the following adjustments have been made in maintenance mode. U402 (See the service manual for the machine.) → U403 (See the service manual for the machine.) → U404 **Adjustment** 1. Press the start key. 2. Select the item.

Display	Description	Setting range	Initial setting	Change in value per step
A MARGIN	Left margin	0 to 10.0	3.0	0.5 mm
B MARGIN	Leading edge margin	0 to 10.0	2.5	0.5 mm
C MARGIN	Right margin	0 to 10.0	3.0	0.5 mm
D MARGIN	Trailing edge margin	0 to 10.0	4.0	0.5 mm
A MARGIN (BACK)*	Left margin (second side)	0 to 10.0	3.0	0.5 mm
B MARGIN (BACK)*	Leading edge margin (second side)	0 to 10.0	2.5	0.5 mm
C MARGIN (BACK)*	Right margin (second side)	0 to 10.0	3.0	0.5 mm
D MARGIN (BACK)*	Trailing edge margin (second side)	0 to 10.0	4.0	0.5 mm

*: Dual scan DP only.

3. Press the system menu key.
4. Place an original on the DP and press the start key to make a test copy.
5. Press the system menu key.
6. Change the setting value using the +/- keys.
   Increasing the value makes the margin wider, and decreasing it makes the margin narrower.

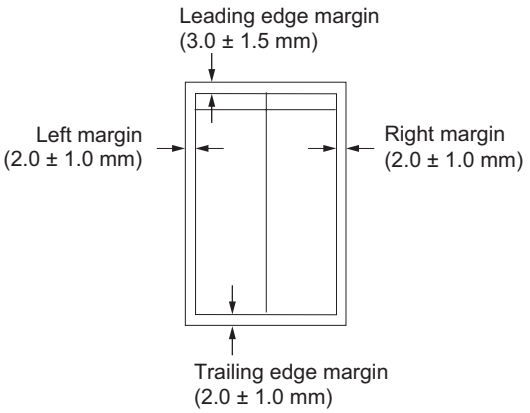


Figure 1-3-5

7. Press the start key. The value is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U411	**Adjusting the scanner automatically** **Description** Uses a specified original and automatically adjusts the following items in the scanner and the DP scanning sections. **Purpose** **Method** 1. Press the start key. 2. Select the item. The screen for executing is displayed.

Display	Description	Original to be used for adjustment (P/N)
SCANNER	Automatic adjustment in the scanner section	302FZ56990
DP(FACE UP)	Automatic adjustment in the DP scanning section (first page)	302AC68243
DP(FACE DOWN)*	Automatic adjustment in the DP scanning section (second page)	302AC68243/303JX57010/ 303JX57020

*: Dual scan DP only.

Method: [SCANNER]

1. Enter the target values which are shown on the specified original (P/N: 302FZ56990) executing maintenance item U425.
2. Set a specified original (P/N: 302FZ56990) on the platen.
3. Select the item.

Display	Description
ALL	Automatic adjustment using the platen for: original size magnification/ leading edge timing/center line, input gamma, chromatic aberration filter, MTF filter and matrix.
INPUT	Automatic adjustment using the platen for: original size magnification/ leading edge timing/center line.
C.A.	Automatic adjustment using the platen for: chromatic aberration filter.
MTF	Automatic adjustment using the platen for: MTF filter.
GAMMA	Automatic adjustment using the platen for: input gamma.
MATRIX	Automatic adjustment using the platen for: matrix.

4. Press the start key. Auto adjustment starts.
   When automatic adjustment has normally completed, [COMPLETE] is displayed. If a problem occurs during auto adjustment, [ERROR XX] (XX is replaced by an error code) is displayed and operation stops. Should this happen, determine the details of the problem and either repeat the procedure from the beginning, or adjust the remaining items manually by running the corresponding maintenance items.

Method: DP(FACE UP)

1. Measure the leading edge, main scanning, and auxiliary scanning of the specified original (P/N: 302AC68243) and enter the values by executing maintenance item U425.
2. Set a specified original (P/N: 302AC68243) in the DP. Cut the trailing edge of the original.

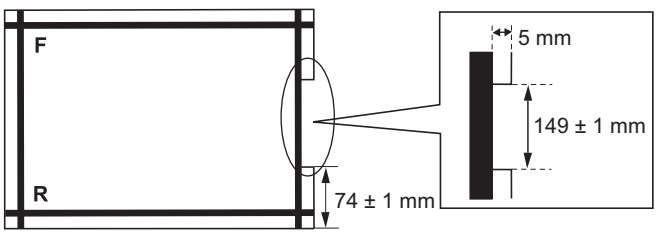


Figure 1-3-6

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U411</td><td>
3. Press [INPUT].
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>INPUT</td><td>Automatic adjustment of first page using the DP for: original size magnification/leading edge timing/center line.</td></tr>
</table>
4. Press the start key. Auto adjustment starts.
When automatic adjustment has normally completed, [COMPLETE] is displayed. If a problem occurs during auto adjustment, [ERROR XX] (XX is replaced by an error code) is displayed and operation stops. Should this happen, determine the details of the problem and either repeat the procedure from the beginning, or adjust the remaining items manually by running the corresponding maintenance items.

Method: DP(FACE DOWN)
1. Place the specified original for acquiring gamma target data (P/N: 303JX57010) on the platen, and press the start key.
2. Place the specified original for acquiring matrix target data (P/N: 303JX57020) on the platen, and press the start key.
When normally completed, [COMPLETE] is displayed.
3. Select the item (place all originals face down).
<table>
<tr><th>Display</th><th>Description</th><th>Original to be used for adjustment (P/N)</th></tr>
<tr><td>ALL</td><td>Automatic adjustment of second page using the DP for: original size magnification/leading edge timing/center line, input gamma, chromatic aberration filter, MTF filter and matrix.</td><td>302AC68243/303JX57010/ 303JX57020</td></tr>
<tr><td>INPUT</td><td>Automatic adjustment of second page using the DP for: original size magnification/leading edge timing/center line.</td><td>302AC68243</td></tr>
<tr><td>MTF/GAMMA</td><td>Automatic adjustment of second page using the DP for: MTF filter and input gamma.</td><td>303JX57010</td></tr>
<tr><td>MATRIX</td><td>Automatic adjustment of second page using the DP for: matrix.</td><td>303JX57020</td></tr>
</table>
[INPUT]
1. Select [INPUT].
2. Place a specified original (P/N: 302AC68243).
3. Press the start key. Auto adjustment starts.
[GAMMA]
1. Select [MTF/GAMMA].
2. Place a specified original (P/N: 303JX57010).
3. Press the start key. Auto adjustment starts.
[MTF/MATRIX]
1. Select [MATRIX].
2. Place a specified original (P/N: 303JX57020).
3. Press the start key. Auto adjustment starts.

When [ALL] is selected, the adjustment of [INPUT], [MTF/GAMMA] and [MATRIX] can be executed at once.
When adjusting, place the three specified originals, and then press the start key.
Set the original 303JX57020, and then place 303JX57010 and 302AC68243 in order on the top of the original.

When automatic adjustment has normally completed, [COMPLETE] is displayed. If a problem occurs during auto adjustment, [ERROR XX] (XX is replaced by an error code) is displayed and operation stops. Should this happen, determine the details of the problem and either repeat the procedure from the beginning, or adjust the remaining items manually by running the corresponding maintenance items.
</td></tr>
</table>

Maintenance item No.	Description
U411	**Error Codes**

Codes	Description
ERROR 01	Black band detection error (scanner leading edge registration)
ERROR 02	Black band detection error (scanner center line)
ERROR 03	Black band detection error (scanner main scanning direction magnification)
ERROR 04	Black band is not detected (scanner leading edge registration)
ERROR 05	Black band is not detected (scanner center line)
ERROR 06	Black band is not detected (scanner main scanning direction magnification)
ERROR 07	Black band is not detected (scanner auxiliary scanning direction magnification)
ERROR 08	Black band is not detected (DP main scanning direction magnification far end)
ERROR 09	Black band is not detected (DP main scanning direction magnification near end)
ERROR 0a	Black band is not detected (DP auxiliary scanning direction magnification leading edge)
ERROR 0b	Black band is not detected (DP auxiliary scanning direction magnification leading edge
ERROR 0c	Black band is not detected (DP auxiliary scanning direction trailing edge)
ERROR 0d	Black band is not detected (DP auxiliary scanning direction trailing edge 2)
ERROR 0e	DMA time out
ERROR 0f	Auxiliary scanning direction magnification error
ERROR 10	Auxiliary scanning direction leading edge detection error
ERROR 11	Auxiliary scanning direction trailing edge detection error
ERROR 12	Auxiliary scanning direction skew 1.5 error
ERROR 13	Maintenance request error
ERROR 14	Main scanning direction center line error
ERROR 15	Main scanning direction skew 1.5 error
ERROR 16	Main scanning direction magnification error
ERROR 17	Service call error
ERROR 18	DP paper misfeed error
ERROR 19	PWB replacement error
ERROR 1a	Original error

Completion
Press the stop key. The screen for selecting a maintenance item is displayed.

Maintenance item No.	Description
U425	**Setting the target** **Description** Enters the lab values that is indicated on the back of the chart (P/N: 302FZ56990) used for adjustment. Also enters the measurement value of the chart (P/N: 302AC68243) used for adjustment. **Purpose** Performs data input in order to correct for differences in originals during automatic adjustment. **Method** 1. Press the start key. 2. Select the item to be set.

Display	Description
CCD	Entering the target values of the chart (P/N: 302FZ56990) used for adjustment
DP	Entering the measurement value of the chart (P/N: 302AC68243) used for adjustment
CIS	Execution is not required

Setting: [CCD]

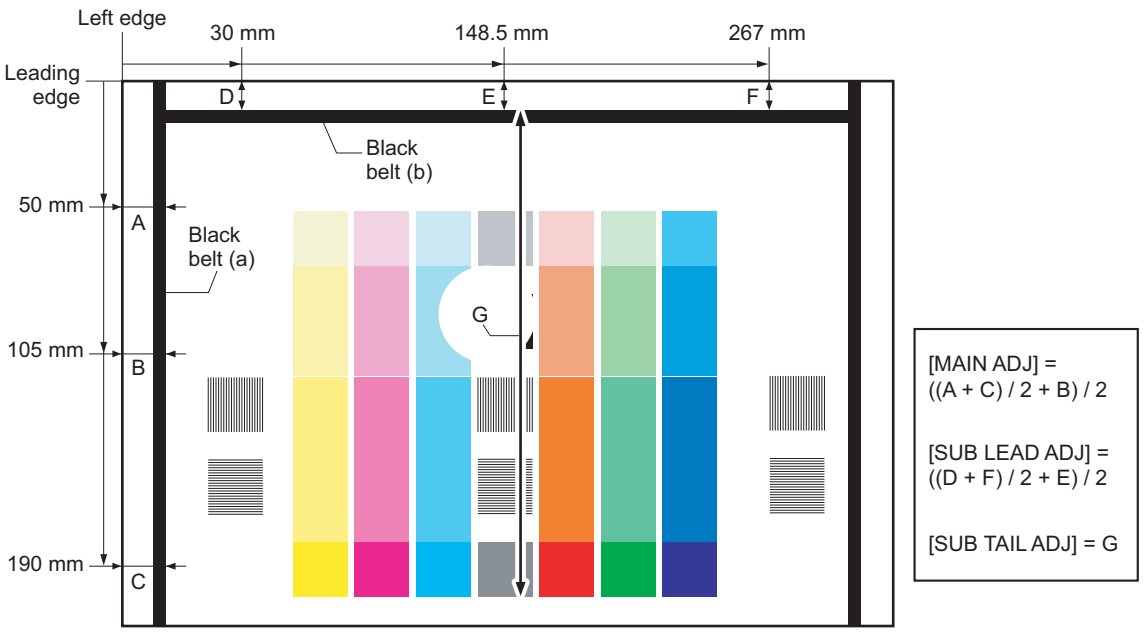
1. Select the item to be set.

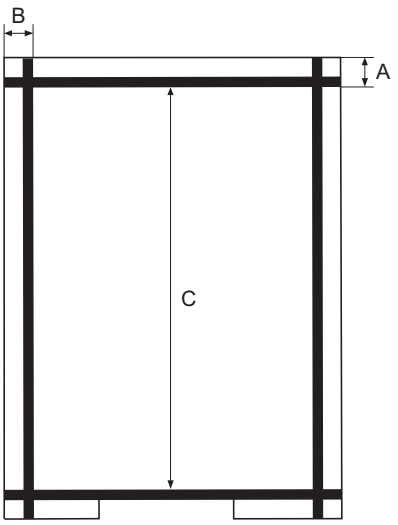
Display	Description
N875	Setting the N875 patch for the original for adjustment
N475	Setting the N475 patch for the original for adjustment
N125	Setting the N125 patch for the original for adjustment
CYAN	Setting the cyan patch for the original for adjustment
MAGENTA	Setting the magenta patch for the original for adjustment
YELLOW	Setting the yellow patch for the original for adjustment
RED	Setting the red patch for the original for adjustment
GREEN	Setting the green patch for the original for adjustment
BLUE	Setting the blue patch for the original for adjustment
ADJUST ORIGINAL	Setting the main and auxiliary scanning directions

2. Select the item to be set.

Display	Description	Setting range
L	Setting the L value	0.0 to 100.0
A	Setting the A value	-200.0 to 200.0
B	Setting the B value	-200.0 to 200.0

3. Enters the value that is indicated on the back of the chart using the +/- or numeric keys.
4. Press the start key. The value is set.

Maintenance item No.	Description
U425	**Setting: [ADJUST ORIGINAL]** 1. Measure the distance from the left edge to the black belt (a) of the original at A, B and C. Measurement procedure 1) Measure the distance from the edge to the black belt (a) of the original at A (50 mm from the leading edge), B (105 mm from the leading edge) and C (190 mm from the leading edge), respectively. 2) Apply the following formula for the values obtained: ((A + C) / 2 + B) / 2 2. Enter the values solved using the +/- keys in [MAIN ADJ]. 3. Press the start key. The value is set. 4. Measure the distance from the leading edge to the black belt (b) of the original at D, E and F. Measurement procedure 1) Measure the length from the edge to the black belt (b) of the original at D (30 mm from the left edge), E (148.5 mm from the left edge) and F (267 mm from the left edge), respectively. 2) Apply the following formula for the values obtained: ((D + F) / 2 + E) / 2 5. Enter the values solved using the +/- keys in [SUB LEAD ADJ]. 6. Press the start key. The value is set. 7. Measure the length (G) from the leading edge of the black belt (b) to the bottom of the N475 patch of the original. 8. Enter the measured value using the +/- keys in [SUB TAIL ADJ]. 9. Press the start key. The value is set. 10. To return to the screen for selecting an item, press the stop key.  Original for adjustment (P/N: 302FZ56990) **Figure 1-3-7**

Maintenance item No.	Description
U425	**Setting: [DP]** 1. Measure the distance from the leading edge to the black belt (inside) of the original at A. 2. Enter the measured value using the +/- keys in [LEAD]. 3. Measure the distance from the left edge to the black belt (inside) of the original at B. 4. Enter the measured value using the +/- keys in [MAIN SCAN]. 5. Measure the distance from the black belt of leading edge (inside) to the black belt of trailing edge (inside) of the original at C. 6. Enter the measured value using the +/- keys in [SUB SCAN]. 7. Press the start key. The value is set.  Original for adjustment (P/N: 302AC68243) **Figure 1-3-8** **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U905	**Checking counts by optional devices** **Description** Displays the counts of DP or finisher. **Purpose** To check the use of DP and finisher. **Method** 1. Press the start key. 2. Select the device, the count of which is to be checked. 3. Press the start key. The count of the selected device is displayed.

Display	Description
DP	Counts of optional DP
FINISHER	Counts of optional document finisher or 3000-sheet document finisher

DP

Display	Description
ADP	No. of single-sided originals that has passed through the DP
RADP	No. of double-sided originals that has passed through the DP
CONCURRENT	No. of dual scan originals that has passed through the DP

Document finisher

Display	Description
CP CNT	No. of copies that has passed
STAPLE	Frequency the stapler has been activated

3000-sheet document finisher

Display	Description
CP CNT	No. of copies that has passed
STAPLE	Frequency the stapler has been activated
PUNCH	Frequency the punch has been activated
STACK	Frequency the stacker has been activated
SADDLE	Frequency the center holding has been activated

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U942</td><td>
Setting of deflection for feeding from DP
Description
Adjusts the deflection generated when the DP is used.
Purpose
Use this mode if an original non-feed jam, oblique feed or wrinkling of original occurs when the DP is used.

Setting
1. Press the start key.
2. Select the item to be adjusted.
<table>
<tr><th>Display</th><th>Description</th><th>Setting</th><th>Initial</th><th>Change in</th></tr>
<tr><td>REGIST TOP</td><td>Deflection of single-sided original</td><td>-31 to 31</td><td>0</td><td>0.176 mm</td></tr>
<tr><td>REGIST BACK</td><td>Deflection of double-sided original</td><td>-31 to 31</td><td>0</td><td>0.176 mm</td></tr>
<tr><td>REGIST MIX</td><td>Deflection of dual scanning</td><td>-31 to 31</td><td>0</td><td>0.176 mm</td></tr>
</table>
3. Press the system menu key.
4. Place an original on the DP and press the start key to make a test copy.
5. Press the system menu key.
6. Change the setting value using the +/- or numeric keys.
The greater the value, the larger the deflection; the smaller the value, the smaller the deflection.
If an original non-feed jam or oblique feed occurs, increase the setting value. If wrinkling of original occurs, decrease the value.
7. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U990</td><td>
Checking/clearing the time for the exposure lamp to light
Description
Displays, clears or changes the accumulated time for the CIS to light.
Purpose
To check duration of use of the CIS. Also to clear the accumulated time for the CIS after replacement.

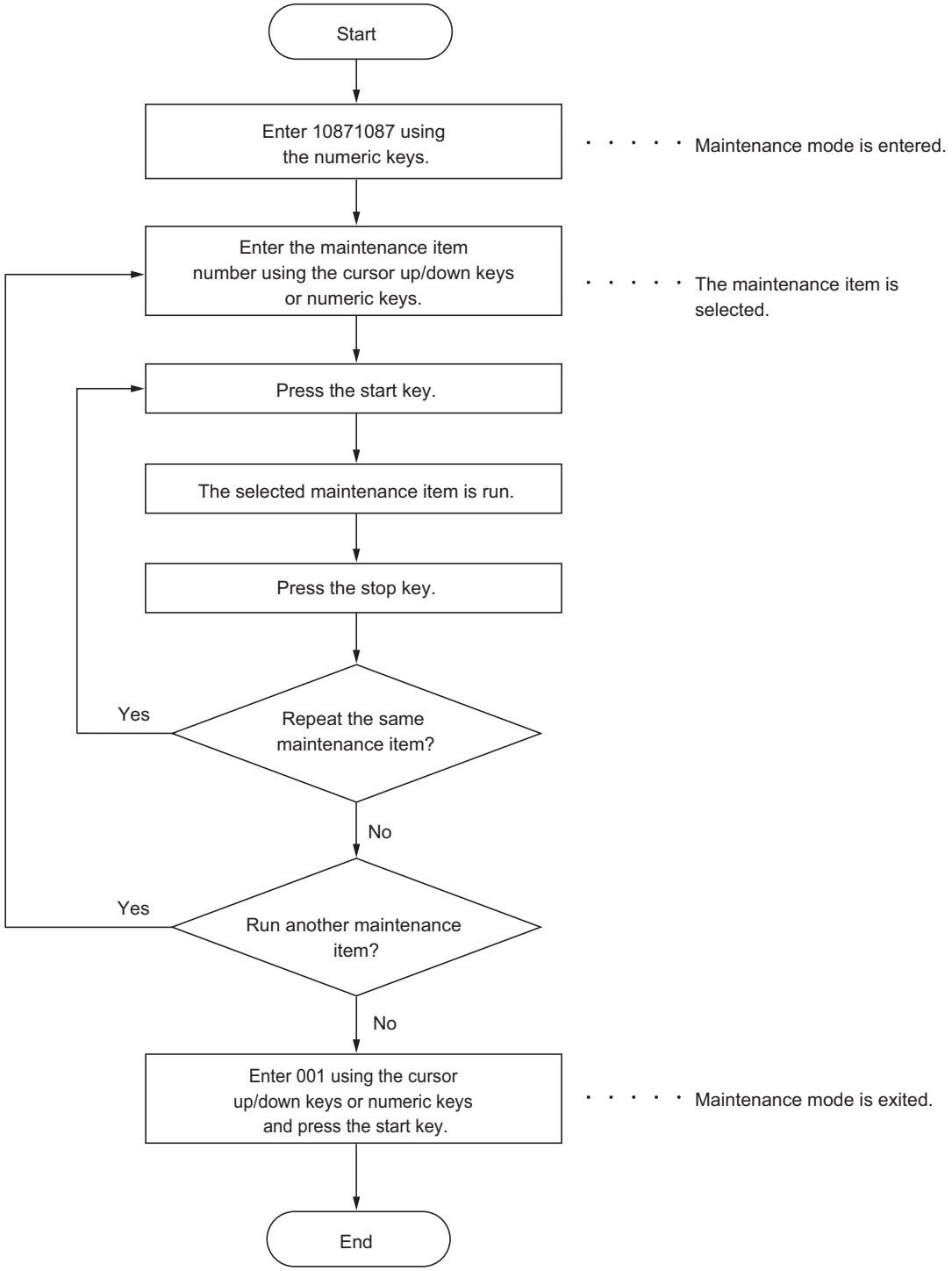
Method
1. Press the start key.
The accumulated time of illumination for the CIS is displayed in minutes.
2. Clear the accumulated time using the +/- or numeric keys.
3. Press the start key. The time is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

1-3-2 Maintenance mode (monochrome machine)

The machine is equipped with a maintenance function which can be used to maintain and service the machine.

(1) Executing a maintenance item


Start
Enter 10871087 using the numeric keys.
Maintenance mode is entered.
Enter the maintenance item number using the cursor up/down keys or numeric keys.
The maintenance item is selected.
Press the start key.
The selected maintenance item is run.
Press the stop key.
Repeat the same maintenance item?
Yes
No
Run another maintenance item?
Yes
No
Enter 001 using the cursor up/down keys or numeric keys and press the start key.
Maintenance mode is exited.
End

(2) Maintenance mode item list

Section	Item No.	Content of maintenance item	Initial setting*
General	U019	Displaying the ROM version	-
Optical	U061	Checking the operation of the exposure lamp	-
	U068	Adjusting the scanning position for originals from the DP	0/0
	U070	Adjusting the DP magnification	0/0/0/0
	U071	Adjusting the DP scanning timing	0/0/0/0/0/0
	U072	Adjusting the DP center line	0/0/0
	U087	Setting DP reading position modification operation	145/145/145
	U091	Setting the white line correction	
Operation panel and support equipment	U203	Operating the DP separately	-
	U243	Checking the operation of the DP motors	-
	U244	Checking the DP switches	-
Mode setting	U326	Setting the black line cleaning indication	ON/8*1
Image processing	U404	Adjusting margins for scanning an original from the DP	3.0/2.5/3.0/4.0/ 3.0/2.5/3.0/4.0*1
	U411	Adjusting the scanner automatically	-
	U425	Setting the target	-
Other	U905	Checking counts by optional devices	-
	U942	Setting of deflection for feeding from DP	0/0/0
	U990	Checking/clearing the time for the exposure lamp to light	-

*Initial setting for executing U020, *1: The item initialized for executing U021

(3) Contents of maintenance mode items

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U019</td><td>
Displaying the ROM version
Description
Displays the part number of the ROM fitted to each PWB.
Purpose
To check the part number or to decide, if the newest version of ROM is installed.

Method
1. Press the start key. The ROM version are displayed.
2. Change the screen using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MAIN</td><td>Main ROM</td></tr>
<tr><td>MMI</td><td>Operation ROM</td></tr>
<tr><td>ENGINE</td><td>Engine ROM</td></tr>
<tr><td>ENGINE BOOT</td><td>Engine booting</td></tr>
<tr><td>SCANNER</td><td>Scanner ROM</td></tr>
<tr><td>BROWSER</td><td>Browser ROM</td></tr>
<tr><td>OPTION LANGUAGE</td><td>Optional language ROM</td></tr>
<tr><td>DICTIONARY</td><td>-</td></tr>
<tr><td>DBA</td><td>Database connection</td></tr>
<tr><td>Solution Framework</td><td>Framework</td></tr>
<tr><td>DP</td><td>DP ROM</td></tr>
<tr><td>500x2PF</td><td>Optional paper feeder ROM</td></tr>
<tr><td>3000PF</td><td>Optional 3000-sheet paper feeder ROM</td></tr>
<tr><td>1000DF</td><td>Optional document finisher ROM</td></tr>
<tr><td>3000DF MAIN</td><td>Optional 3000-sheet document finisher main ROM</td></tr>
<tr><td>3000DF MIDDLE</td><td>Optional 3000-sheet document finisher Inner tray ROM</td></tr>
<tr><td>MAIL BOX</td><td>Optional mailbox ROM</td></tr>
<tr><td>BOOKLET</td><td>Optional center-folding unit ROM</td></tr>
<tr><td>INNER DF</td><td>Optional built-in finisher ROM</td></tr>
<tr><td>FAX BOOT1</td><td>Optional fax control PWB booting (port 1)</td></tr>
<tr><td>FAX APL1</td><td>Optional fax control PWB APL (port 1)</td></tr>
<tr><td>FAX IPL1</td><td>Optional fax control PWB IPL (port 1)</td></tr>
<tr><td>FAX BOOT2</td><td>Fax control PWB booting (port 2: optional dual FAX)</td></tr>
<tr><td>FAX APL2</td><td>Fax control PWB APL (port 2: optional dual FAX)</td></tr>
<tr><td>FAX IPL2</td><td>Fax control PWB IPL (port 2: optional dual FAX)</td></tr>
</table>
Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U061</td><td>
Checking the operation of the exposure lamp
Description
Turns the exposure lamp on.
Purpose
To check the exposure lamp.

Method
1. Press the start key.
2. Select the item.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>CCD</td><td>The exposure lamp lights</td></tr>
<tr><td>CIS</td><td>The CIS lights (when dual scan DP is installed)</td></tr>
</table>
3. Press the start key. The lamp lights.
4. To turn the lamp off, press the stop key.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U068</td><td>
Adjusting the scanning position for originals from the DP
Description
Adjusts the position for scanning originals from the DP. Performs the test copy at the four scanning positions after adjusting.
Purpose
Used when the image fogging occurs because the scanning position is not proper when the DP is used. Run U071 to adjust the timing of DP leading edge when the scanning position is changed.

Setting
1. Press the start key.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr>
<tr><td>DP READ</td><td>Starting position adjustment for scanning originals</td><td>-55 to 55</td><td>0</td><td>0.11 mm</td></tr>
<tr><td>BLACK LINE</td><td>Scanning position for the test copy originals</td><td>0 to 3</td><td>0</td><td>-</td></tr>
</table>
2. Select [DP READ] of the screen for selecting an item.
3. Change the setting using the +/- or numeric keys.
When the setting value is increased, the scanning position moves to the right and it moves to the left when the setting value is decreased.
4. Press the start key. The value is set.
5. Select [BLACK LINE] of the screen for selecting an item.
6. Select the scanning position using the +/- or numeric keys.
7. Press the start key. The value is set.
8. Set the original (the one which density is known) in the DP and press the system menu key. The screen for the test copy mode is displayed.
9. Press the start key. Test copy is executed.
10. Perform the test copy at each scanning position with the setting value from 0 to 3 and check that no black line appears and the image is normally scanned.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U070	**Adjusting the DP magnification** **Description** **Description** Adjusts the DP original scanning speed. **Purpose** Make the adjustment if the magnification is incorrect in the main scanning direction or auxiliary scanning direction when the DP is used. **Method** 1. Press the start key. 2. Select the item to be adjusted.

Display	Description	Setting range	Initial setting	Change in value per step
MOTOR ADJ (FRONT)	Magnification in the auxiliary scanning direction of CCD (first side)	-25 to 25	0	0.05 %
MOTOR ADJ (BACK)	Magnification in the auxiliary scanning direction of CCD (second side)	-25 to 25	0	0.05 %
Y SCAN ZOOM (CIS)*	Magnification in the main scanning direction of CIS	-15 to 15	0	0.01 %
X SCAN ZOOM (CIS)*	Magnification in the auxiliary scanning direction of CIS	-50 to 50	0	0.05 %

*: Dual scan DP only.

Adjustment: Main scanning direction of CIS

1. Press the system menu key.
2. Place an original on the DP and press the start key to make a test copy.
3. Press the system menu key.
4. Change the setting value using the +/- or numeric keys.
   For copy example 1, increase the value. For copy example 2, decrease the value.

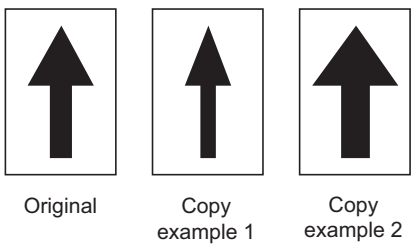
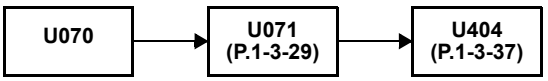


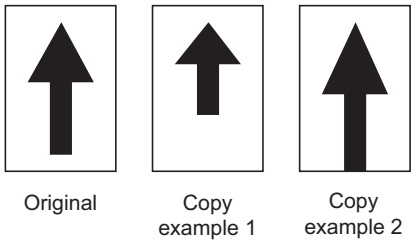
Figure 1-3-9

5. Press the start key. The value is set.

Caution

Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode.



Maintenance item No.	Description
U070	**Adjustment: Auxiliary scanning direction of CCD/CIS** 1. Press the system menu key. 2. Place an original on the DP and press the start key to make a test copy. 3. Press the system menu key. 4. Change the setting value using the +/- or numeric keys. For copy example 1, increase the value. For copy example 2, decrease the value.  **Figure 1-3-10** 5. Press the start key. The value is set. **Caution** Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode. **U070** → **U071 (P.1-3-29)** → **U404 (P.1-3-37)** **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U071	**Adjusting the DP scanning timing** **Description** Adjusts the DP original scanning timing. **Purpose** Make the adjustment if there is a regular error between the leading or trailing edges of the original and the copy image when the DP is used. **Method** 1. Press the start key. 2. Select the item to be adjusted.

Display	Description	Setting range	Initial setting	Change in value per step
FRONT HEAD	Leading edge registration of CCD (first side)	-66 to 66	0	0.08 mm
FRONT TAIL	Trailing edge registration of CCD (first side)	-66 to 66	0	0.08 mm
BACK HEAD	Leading edge registration of CCD (second side)	-66 to 66	0	0.08 mm
BACK TAIL	Trailing edge registration of CCD (second side)	-66 to 66	0	0.08 mm
HEAD (CIS)*	Leading edge registration of CIS	-66 to 66	0	0.08 mm
TAIL (CIS)*	Trailing edge registration of CIS	-66 to 66	0	0.08 mm

*: Dual scan DP only.

Adjustment: Leading edge registration

1. Press the system menu key.
2. Place an original on the DP and press the start key to make a test copy.
3. Press the system menu key.
4. Change the setting value using the +/- or numeric keys.
   For copy example 1, increase the value. For copy example 2, decrease the value.

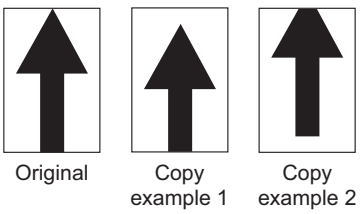


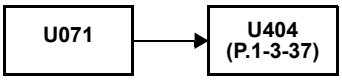
Figure 1-3-11

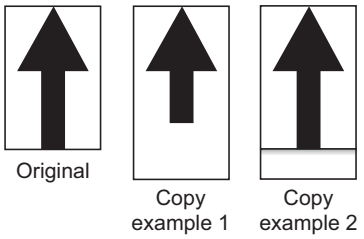
5. Press the start key. The value is set.

Caution

If the CCD first side is adjusted, check the CCD second side and if adjustment is required, carry out the adjustment.

Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode.



Maintenance item No.	Description
U071	**Adjustment: Trailing edge registration** 1. Press the system menu key. 2. Place an original on the DP and press the start key to make a test copy. 3. Press the system menu key. 4. Change the setting value using the +/- or numeric keys. For copy example 1, increase the value. For copy example 2, decrease the value.  **Figure 1-3-12** 5. Press the start key. The value is set. **Caution** If the CCD first side is adjusted, check the CCD second side and if adjustment is required, carry out the adjustment. Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode. **U071** → **U404 (P.1-3-37)** **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U072	**Adjusting the DP center line** **Description** Adjusts the scanning start position for the DP original. **Purpose** Make the adjustment if there is a regular error between the centers of the original and the copy image when the DP is used. **Adjustment** 1. Press the start key. 2. Select the item to be adjusted.

Display	Description	Setting range	Initial setting	Change in value per step
FRONT	DP center line of CCD (first side)	-40 to 40	0	0.08 mm
BACK	DP center line of CCD (second side)	-40 to 40	0	0.08 mm
CIS*	DP center line of CIS	-40 to 40	0	0.08 mm

*: Dual scan DP only.

3. Press the system menu key.
4. Place an original on the DP and press the start key to make a test copy.
5. Press the system menu key.
6. Change the setting value using the +/- or numeric keys.
   For copy example 1, increase the value. For copy example 2, decrease the value.

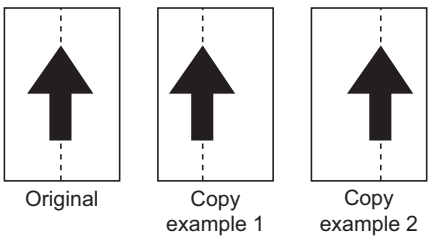
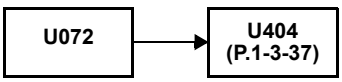


Figure 1-3-13

7. Press the start key. The value is set.

Caution
If the CCD first side is adjusted, check the CCD second side and if adjustment is required, carry out the adjustment.
Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode.



Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U087	**Setting DP reading position modification operation** **Description** The presence or absence of dust is determined by comparing the scan data of the original trailing edge and that taken after the original is conveyed past the DP original scanning position. If dust is identified, the DP original scanning position is adjusted for the following originals. **Purpose** When using DP, to solve the problem when black lines occurs due to the dust with respect to original reading position. **Method** 1. Press the start key. 2. Select the item to be set. The setting screen for the selected item is displayed. **Setting: Standard data when dust is detected** 1. Select the item to be set. 2. Change the value using the +/- or numeric keys. 3. Press the start key. The value is set. **Setting: Initialization of original reading position** 1. Select [CLEAR]. 2. Press the start key. The setting is cleared. **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.

Display	Description
CCD	Setting of standard data when dust is detected
BLACK LINE	Initialization of original reading position

Display	Description	Setting range	Initial setting
CCD R	Lowest density of the R regard as the dust	0 to 255	175
CCD G	Lowest density of the G regard as the dust	0 to 255	170
CCD B	Lowest density of the B regard as the dust	0 to 255	160

Maintenance item No.	Description
U091	**Setting the white line correction** **Description** Sets the error detection threshold value for white line correction and displays the count result of abnormal pixels. **Purpose** To perform when replacing the CIS or DP driver PWB. **Method** 1. Press the start key. 2. Press [EXECUTE]. 3. Press the start key. Holding of white reference data is started. 4. The count result of abnormal pixels is displayed.

Display	Description
Calculation(R)	Abnormal pixel count result for color R
Calculation(G)	Abnormal pixel count result for color G
Calculation(B)	Abnormal pixel count result for color B

Setting: Threshold value setting

1. Select the item to be set.
2. Change the value using the +/- or numeric keys.

Display	Description	Setting range	Initial setting
Threshold(R)	Setting of abnormal pixel detection threshold value for color R	0 to 1023	-
Threshold(G)	Setting of abnormal pixel detection threshold value for color G	0 to 1023	-
Threshold(B)	Setting of abnormal pixel detection threshold value for color B	0 to 1023	-
Abnorm Pixel Threshold	Abnormal pixel threshold value setting	0 to 8191	75
MODE	Switching between white line correction mode ON/OFF	0: OFF 1: ON 2: Test mode	0

3. Press the start key. The value is set.

Completion

Press the stop key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U203</td><td>
Operating the DP separately
Description
Simulates the original conveying operation separately in the DP.
Purpose
To check the DP operation.

Method
1. Press the start key.
2. Place an original in the DP if running this simulation with paper.
3. Select the item to be operated.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>CCD ADP (NON P)</td><td>Without paper, single-sided original of CCD (continuous operation)</td><td>-</td><td>-</td></tr>
<tr><td>CCD ADP</td><td>With paper, single-sided original of CCD</td><td>-</td><td>-</td></tr>
<tr><td>CCD RADP (NON P)</td><td>Without paper, double-sided original of CCD (continuous operation)</td><td>-</td><td>-</td></tr>
<tr><td>CCD RADP</td><td>With paper, double-sided original of CCD</td><td>-</td><td>-</td></tr>
<tr><td>CIS RADP (NON P)*</td><td>Without paper, double-sided original of CIS (continuous operation)</td><td>-</td><td>-</td></tr>
<tr><td>CIS RADP*</td><td>With paper, double-sided original of CIS</td><td>-</td><td>-</td></tr>
<tr><td>SPEED</td><td>Switching between normal reading (600 dpi) and high-speed reading</td><td>0 (Normal)/ 1 (High-speed)</td><td>0</td></tr>
</table>
*: Dual scan DP only.
4. Press the start key. The operation starts.
5. To stop continuous operation, press the stop key.

Completion
Press the stop key when the operation stops. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U243</td><td>
Checking the operation of the DP motors
Description
Turns the motors or solenoids in the DP on.
Purpose
To check the operation of the DP motors and solenoids.

Method
1. Press the start key.
2. Select the item to be operated.
3. Press the start key. The operation starts.
<table>
<tr><th>Display</th><th>Motor and solenoid</th><th>Operation</th></tr>
<tr><td>DP FEED MOT</td><td>Original feed motor (OFM)</td><td>In operation</td></tr>
<tr><td>DP CON MOT</td><td>Original conveying motor (OCM)</td><td>In operation</td></tr>
<tr><td>DP REV MOT</td><td>Original switchback motor (OSBM)</td><td>In operation</td></tr>
<tr><td>DP LIFT MOT</td><td>DP lift motor (DPLM)</td><td>In operation</td></tr>
<tr><td>DP REV PRS SOL</td><td>Switchback pressure solenoid (SBPSOL)</td><td>On for 0.5 s</td></tr>
<tr><td>DP REV BRCH SOL</td><td>Switchback feedshift solenoid (SBFSSOL)</td><td>On for 0.5 s</td></tr>
<tr><td>CIS FAN*</td><td>DP fan motor (DPFM)</td><td>In operation</td></tr>
</table>
*: Dual scan DP only.
4. To turn each motor off, press the stop key.

Completion
Press the stop key when operation stops. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U244	**Checking the DP switches** **Description** Displays the status of the respective switches in the DP. **Purpose** To check if respective switches in the DP operate correctly. **Method** 1. Press the start key. 2. Turn the respective switches on and off manually to check the status. If the on-status of a switch is detected, the corresponding switch is displayed in reverse.

Display	Description
FD SW	Original feed switch (OFSW)
REG SW	Original registration switch (ORSW)
TMG SW	DP timing switch 1 (DPTSW1)
EJT SW	Original eject switch (OESW)
TRY SW	Switchback tray switch (SBTSW)
SET SW	Original set switch (OSSW)
SZ SW A	Original size length switch (OSLSW)
L F U SW	Tray upper limit switch (TULSW)
L F L SW	Tray lower limit switch (TLLSW)
COV OP SW	DP interlock switch (DPILSW)
P OP SW	DP open/close switch (DPOCSW)
CIS SW*	DP timing switch 2 (DPTSW2)

*: Dual scan DP only.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U326	**Setting the black line cleaning indication** **Description** Sets whether to display the cleaning guidance when detecting the black line. **Purpose** Displays the cleaning guidance in order to make the call for service with the black line decrease by the rubbish on the contact glass when scanning from the DP. **Setting** 1. Press the start key. 2. Select the item to set. The screen for setting each item is displayed. **Setting: [BLACK LINE MODE]** 1. Select ON or OFF. Initial setting: ON Setting count value is displayed only if the setting is ON. 2. Press the start key. The setting is set. **Setting: [BLACK LINE COUNT]** 1. Change the setting value using the +/- or numeric keys. When setting is 0, the black line cleaning indication is displayed only if the black line is detected. 2. Press the start key. The value is set. **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.

Display	Description
BLACK LINE MODE	Black line cleaning guidance ON/OFF setting
BLACK LINE COUNT	Setting counts of the cleaning guidance indication

Display	Description
ON	Displays the cleaning guidance
OFF	Not to display the cleaning guidance

Display	Description	Setting range	Initial setting
COUNT *1000	Setting counts of the cleaning guidance indication (x 1000 sheets)	0 to 255	8

Maintenance item No.	Description
U404	**Adjusting margins for scanning an original from the DP** **Description** Adjusts margins for scanning the original from the DP. **Purpose** Make the adjustment if margins are incorrect when the DP is used. **Caution** Before making this adjustment, ensure that the following adjustments have been made in maintenance mode. **U402 (See the service manual for the machine.)** → **U403 (See the service manual for the machine.)** → **U404** **Adjustment** 1. Press the start key. 2. Select the item to be adjusted.

Display	Description	Setting range	Initial setting	Change in value per step
A MARGIN	Left margin	0 to 10.0	3.0	0.5 mm
B MARGIN	Leading edge margin	0 to 10.0	2.5	0.5 mm
C MARGIN	Right margin	0 to 10.0	3.0	0.5 mm
D MARGIN	Trailing edge margin	0 to 10.0	4.0	0.5 mm
A MARGIN (BACK)*	Left margin (second side)	0 to 10.0	3.0	0.5 mm
B MARGIN (BACK)*	Leading edge margin (second side)	0 to 10.0	2.5	0.5 mm
C MARGIN (BACK)*	Right margin (second side)	0 to 10.0	3.0	0.5 mm
D MARGIN (BACK)*	Trailing edge margin (second side)	0 to 10.0	4.0	0.5 mm

*: Dual scan DP only.

3. Press the system menu key.
4. Place an original on the DP and press the start key to make a test copy.
5. Press the system menu key.
6. Change the setting value using the +/- keys.
   Increasing the value makes the margin wider, and decreasing it makes the margin narrower.

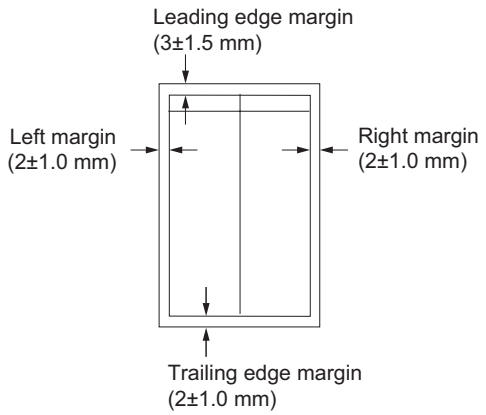


Figure 1-3-14

7. Press the start key. The value is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U411</td><td>
Adjusting the scanner automatically
Description
Uses a specified original and automatically adjusts the following items in the scanner and the DP scanning sections.
Purpose
To perform automatic adjustment of various items in the scanner and the DP scanning sections.

Method
1. Press the start key.
2. Select the item. The screen for executing is displayed.
<table>
<tr><th>Display</th><th>Description</th><th>Original to be used for adjustment (P/N)</th></tr>
<tr><td>SCANNER</td><td>Automatic adjustment in the scanner section</td><td>302FZ56990</td></tr>
<tr><td>DP(FACE UP)</td><td>Automatic adjustment in the DP scanning section (first page)</td><td>302AC68243</td></tr>
<tr><td>DP(FACE DOWN)*</td><td>Automatic adjustment in the DP scanning section (second page)</td><td>302AC68243/303JX57010/ 303JX57020</td></tr>
</table>
*: Dual scan DP only.

Method: [SCANNER]
1. Enter the target values which are shown on the specified original (P/N: 302FZ56990) executing maintenance item U425.
2. Set a specified original (P/N: 302FZ56990) on the platen.
3. Select the item.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ALL</td><td>Automatic adjustment using the platen for: original size magnification/ leading edge timing/center line, input gamma, chromatic aberration filter, MTF filter and matrix.</td></tr>
<tr><td>INPUT</td><td>Automatic adjustment using the platen for: original size magnification/ leading edge timing/center line.</td></tr>
<tr><td>C.A.</td><td>Automatic adjustment using the platen for: chromatic aberration filter.</td></tr>
<tr><td>MTF</td><td>Automatic adjustment using the platen for: MTF filter.</td></tr>
<tr><td>GAMMA</td><td>Automatic adjustment using the platen for: input gamma.</td></tr>
<tr><td>MATRIX</td><td>Automatic adjustment using the platen for: matrix.</td></tr>
</table>
4. Press the start key. Auto adjustment starts.
When automatic adjustment has normally completed, [Complete] is displayed. If a problem occurs during auto adjustment, [ERROR XX] (XX is replaced by an error code) is displayed and operation stops. Should this happen, determine the details of the problem and either repeat the procedure from the beginning, or adjust the remaining items manually by running the corresponding maintenance items.
</td></tr>
</table>

Maintenance item No.	Description
U411	**Method: [DP(FACE UP)]** 1. Measure the leading edge, main scanning, and auxiliary scanning of the specified original (P/N: 302AC68243) and enter the values by executing maintenance item U425. 2. Set a specified original (P/N: 302AC68243) in the DP. Cut the trailing edge of the original.

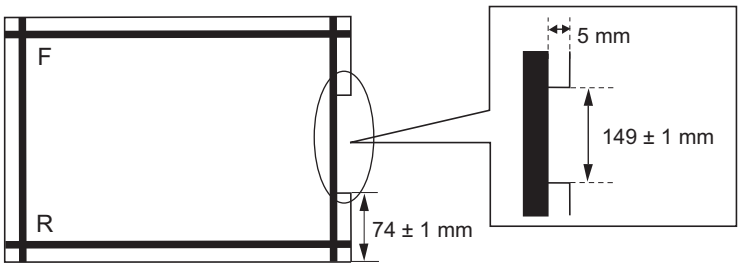


Figure 1-3-15

3. Press [INPUT].

Display	Description
INPUT	Automatic adjustment of first page using the DP for: original size magnification/leading edge timing/center line.

4. Press the start key. Auto adjustment starts.
When automatic adjustment has normally completed, [Complete] is displayed. If a problem occurs during auto adjustment, [ERROR XX] (XX is replaced by an error code) is displayed and operation stops. Should this happen, determine the details of the problem and either repeat the procedure from the beginning, or adjust the remaining items manually by running the corresponding maintenance items.

Method: [DP(FACE DOWN)]

1. Select [ORIGINAL TARGET] and press the start key. The screen for executing is displayed.

Display	Description
NORMAL TARGET	Execution is not required.
ORIGINAL TARGET	Uses the specified original for acquiring data as the target data.

2. Place the specified original for acquiring gamma target data (P/N: 303JX57010) on the platen, and press the start key.
3. Place the specified original for acquiring matrix target data (P/N: 303JX57020) on the platen, and press the start key.
When normally completed, [Complete] is displayed.
4. Select the item (place all originals face down).

Display	Description	Original to be used for adjustment (P/N)
ALL	Automatic adjustment of second page using the DP for: original size magnification/leading edge timing/center line, input gamma, chromatic aberration filter, MTF filter and matrix.	302AC68243/303JX57010/ 303JX57020
INPUT	Automatic adjustment of second page using the DP for: original size magnification/leading edge timing/center line.	302AC68243
MTF/GAMMA	Automatic adjustment of second page using the DP for: MTF filter and input gamma.	303JX57010
MATRIX	Automatic adjustment of second page using the DP for: matrix.	303JX57020

Maintenance item No.	Description
U411	**[INPUT]** 1. Select [INPUT]. 2. Place a specified original (P/N: 302AC68243). 3. Press the start key. Auto adjustment starts. **[MTF/GAMMA]** 1. Select [MTF/GAMMA]. 2. Place a specified original (P/N: 303JX57010). 3. Press the start key. Auto adjustment starts. **[MATRIX]** 1. Select [MATRIX]. 2. Place a specified original (P/N: 303JX57020). 3. Press the start key. Auto adjustment starts. When [ALL] is selected, the adjustment of [INPUT], [MTF/GAMMA] and [MATRIX] can be executed at once. When adjusting, place the three specified originals, and then press the start key. Set the original 303JX57020, and then place 303JX57010 and 302AC68243 in order on the top of the original. When automatic adjustment has normally completed, [COMPLETE] is displayed. If a problem occurs during auto adjustment, [ERROR XX] (XX is replaced by an error code) is displayed and operation stops. Should this happen, determine the details of the problem and either repeat the procedure from the beginning, or adjust the remaining items manually by running the corresponding maintenance items. **Completion** Press the stop key. The screen for selecting a maintenance item is displayed.

Maintenance item No.	Description
U411	**Error Codes**

Codes	Description
ERROR 01	Black band detection error (scanner leading edge registration)
ERROR 02	Black band detection error (scanner center line)
ERROR 03	Black band detection error (scanner main scanning direction magnification)
ERROR 04	Black band is not detected (scanner leading edge registration)
ERROR 05	Black band is not detected (scanner center line)
ERROR 06	Black band is not detected (scanner main scanning direction magnification)
ERROR 07	Black band is not detected (scanner auxiliary scanning direction magnification)
ERROR 08	Black band is not detected (DP main scanning direction magnification far end)
ERROR 09	Black band is not detected (DP main scanning direction magnification near end)
ERROR 0a	Black band is not detected (DP auxiliary scanning direction magnification leading edge)
ERROR 0b	Black band is not detected (DP auxiliary scanning direction magnification leading edge
ERROR 0c	Black band is not detected (DP auxiliary scanning direction trailing edge)
ERROR 0d	Black band is not detected (DP auxiliary scanning direction trailing edge 2)
ERROR 0e	DMA time out
ERROR 0f	Auxiliary scanning direction magnification error
ERROR 10	Auxiliary scanning direction leading edge detection error
ERROR 11	Auxiliary scanning direction trailing edge detection error
ERROR 12	Auxiliary scanning direction skew 1.5 error
ERROR 13	Maintenance request error
ERROR 14	Main scanning direction center line error
ERROR 15	Main scanning direction skew 1.5 error
ERROR 16	Main scanning direction magnification error
ERROR 17	Carriage error
ERROR 18	Service call error
ERROR 19	DP status error
ERROR 1a	DP open error

Maintenance item No.	Description
U425	**Setting the target** **Description** Enters the lab values that is indicated on the back of the chart (P/N: 302FZ56990) used for adjustment. Also enters the measurement value of the chart (P/N: 302AC68243) used for adjustment. **Purpose** Performs data input in order to correct for differences in originals during automatic adjustment. **Method** 1. Press the start key. 2. Select the item to be set.

Display	Description
CCD	Entering the target values of the chart (P/N: 302FZ56990) used for adjustment
DP	Entering the measurement value of the chart (P/N: 302AC68243) used for adjustment
CIS	Execution is not required

Setting: [CCD]

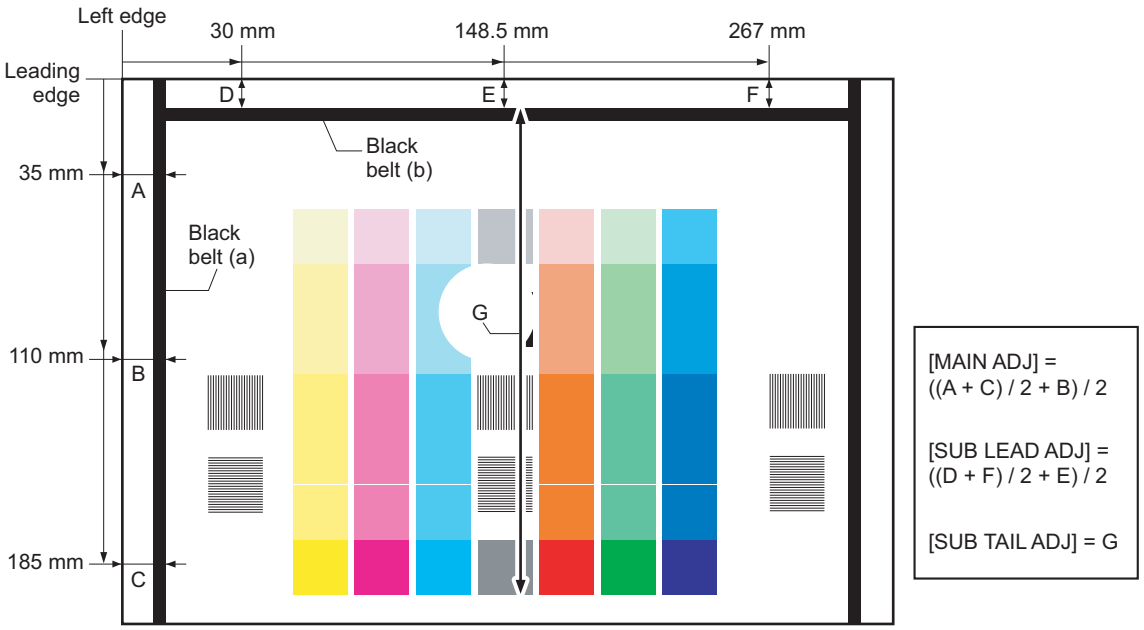
1. Select the item to be set.

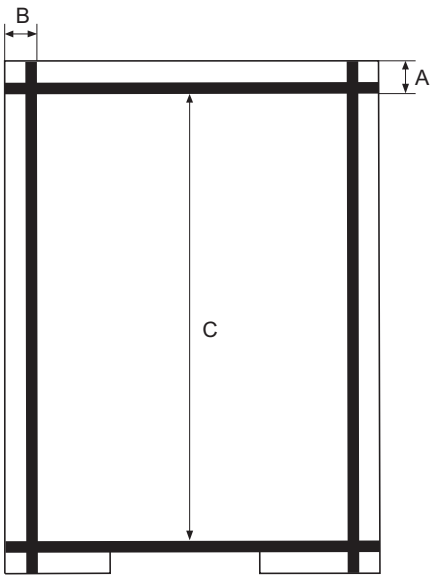
Display	Description
N875	Setting the N875 patch for the original for adjustment
N475	Setting the N475 patch for the original for adjustment
N125	Setting the N125 patch for the original for adjustment
CYAN	Setting the cyan patch for the original for adjustment
MAGENTA	Setting the magenta patch for the original for adjustment
YELLOW	Setting the yellow patch for the original for adjustment
RED	Setting the red patch for the original for adjustment
GREEN	Setting the green patch for the original for adjustment
BLUE	Setting the blue patch for the original for adjustment
ADJUST ORIGINAL	Setting the main and auxiliary scanning directions

2. Select the item to be set.

Display	Description	Setting range
L	Setting the L value	0.0 to 100.0
A	Setting the A value	-200.0 to 200.0
B	Setting the B value	-200.0 to 200.0

3. Enters the value that is indicated on the back of the chart using the +/- or numeric keys.
4. Press the start key. The value is set.

Maintenance item No.	Description
U425	**Setting: [ADJUST ORIGINAL]** 1. Measure the distance from the left edge to the black belt (a) of the original at A, B and C. Measurement procedure 1) Measure the distance from the edge to the black belt (a) of the original at A (35 mm from the leading edge), B (110 mm from the leading edge) and C (185 mm from the leading edge), respectively. 2) Apply the following formula for the values obtained: ((A + C) / 2 + B) / 2 2. Enter the values solved using the +/- keys in [MAIN ADJ]. 3. Press the start key. The value is set. 4. Measure the distance from the leading edge to the black belt (b) of the original at D, E and F. Measurement procedure 1) Measure the length from the edge to the black belt (b) of the original at D (30 mm from the left edge), E (148.5 mm from the left edge) and F (267 mm from the left edge), respectively. 2) Apply the following formula for the values obtained: ((D + F) / 2 + E) / 2 5. Enter the values solved using the +/- keys in [SUB LEAD ADJ]. 6. Press the start key. The value is set. 7. Measure the length (G) from the leading edge of the black belt (b) to the bottom of the N475 patch of the original. 8. Enter the measured value using the +/- keys in [SUB TAIL ADJ]. 9. Press the start key. The value is set. 10. To return to the screen for selecting an item, press the stop key.  Original for adjustment (P/N: 302FZ56990) **Figure 1-3-16**

Maintenance item No.	Description
U425	**Setting: [DP]** 1. Measure the distance from the leading edge to the black belt (inside) of the original at A. 2. Enter the measured value using the +/- keys in [LEAD]. 3. Measure the distance from the left edge to the black belt (inside) of the original at B. 4. Enter the measured value using the +/- keys in [MAIN SCAN]. 5. Measure the distance from the black belt of leading edge (inside) to the black belt of trailing edge (inside) of the original at C. 6. Enter the measured value using the +/- keys in [SUB SCAN]. 7. Press the start key. The value is set.  Original for adjustment (P/N: 302AC68243) **Figure 1-3-17** **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U905	**Checking counts by optional devices** **Description** Displays the counts of DP or finisher. **Purpose** To check the use of DP and finisher. **Method** 1. Press the start key. 2. Select the device, the count of which is to be checked. 3. Press the start key. The count of the selected device is displayed.

Display	Description
DP	Counts of optional DP
FINISHER	Counts of optional document finisher or 3000-sheet document finisher

DP

Display	Description
ADP	No. of single-sided originals that has passed through the DP
RADP	No. of double-sided originals that has passed through the DP
CONCURRENT	No. of dual scan originals that has passed through the DP

Document finisher

Display	Description
CP CNT	No. of copies that has passed
STAPLE	Frequency the stapler has been activated

3000-sheet document finisher

Display	Description
CP CNT	No. of copies that has passed
STAPLE	Frequency the stapler has been activated
PUNCH	Frequency the punch has been activated
STACK	Frequency the stacker has been activated
SADDLE	Frequency the center holding has been activated

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U942</td><td>
Setting of deflection for feeding from DP
Description
Adjusts the deflection generated when the DP is used.
Purpose
Use this mode if an original non-feed jam, oblique feed or wrinkling of original occurs when the DP is used.

Setting
1. Press the start key.
2. Select the item to be adjusted.
<table>
<tr><th>Display</th><th>Description</th><th>Setting</th><th>Initial</th><th>Change in</th></tr>
<tr><td>REGIST TOP</td><td>Deflection of single-sided original</td><td>-31 to 31</td><td>0</td><td>0.18 mm</td></tr>
<tr><td>REGIST BACK</td><td>Deflection of double-sided original</td><td>-31 to 31</td><td>0</td><td>0.18 mm</td></tr>
<tr><td>REGIST MIX</td><td>Deflection of dual scanning</td><td>-31 to 31</td><td>0</td><td>0.18 mm</td></tr>
</table>
3. Press the system menu key.
4. Place an original on the DP and press the start key to make a test copy.
5. Press the system menu key.
6. Change the setting value using the +/- or numeric keys.
The greater the value, the larger the deflection; the smaller the value, the smaller the deflection.
If an original non-feed jam or oblique feed occurs, increase the setting value. If wrinkling of original occurs, decrease the value.
7. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U990</td><td>
Checking/clearing the time for the exposure lamp to light
Description
Displays, clears or changes the accumulated time for the CIS to light.
Purpose
To check duration of use of the CIS. Also to clear the accumulated time for the CIS after replacement.

Method
1. Press the start key.
The accumulated time of illumination for the CIS is displayed in minutes.
2. Clear the accumulated time using the +/- or numeric keys.
3. Press the start key. The time is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

1-4-1 Original misfeed detection

(1) Original misfeed indication

When an original jams, the machine immediately stops operation and a message is shown on the machine operation panel.
To remove the jammed original, open the DP top cover or switchback unit.
Paper misfeed detection can be reset by opening and closing the respective covers to turn safety switch off and on.

(2) Original misfeed detection conditions

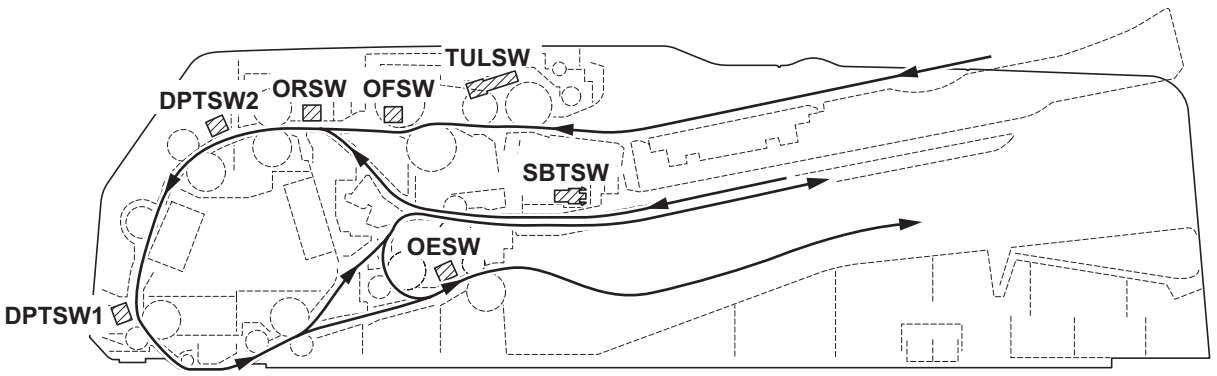


Figure 1-4-1

Fullcolor machine

Section	Jam code	Conditions	Specified time	
			25/25 ppm 30/30 ppm	40/40 ppm 50/40 ppm 55/50 ppm
DP	70 No original feed	The original feed switch (OFSW) does not turn on within specified time during the first sheet feeding (Retry 5 times).	1159 ms	705 ms
		The original feed switch (OFSW) does not turn on within specified time during the second sheet feeding (Retry 5 times).	1159 ms	705 ms
		During original tray ascent, the tray upper limit switch (TULSW) does not turn on within specified time.	2 s	2 s
	71 An original jam in the original feed section	The original registration switch (ORSW) does not turn on within specified time of the original feed switch (OFSW) turning on.	914 ms	557 ms
	72 An original jam in the original conveying section	DP timing switch 1 (DPTSW1) turns off within the specified time since the switch turns on.	914 ms	557 ms
	73 An original jam in the original registration section	During single scanning, the DP timing switch 1 (DPTSW1) does not turn on within specified time of the original registration switch (ORSW) turning on (Retry 5 times).	1774 ms	1080 ms
		During duplex switchback scanning, the DP timing switch 1 (DPTSW1) does not turn on within specified time of the original registration switch (ORSW) turning on (Retry 5 times).	1774 ms	1080 ms
		During dual scanning, the DP timing switch 2 (DPTSW2) does not turn on within specified time of the original registration switch (ORSW) turning on (Retry 5 times).	1014 ms	617 ms
	74 An original jam in the original feed section	The original feed switch (OFSW) or original registration switch (ORSW) does not turn off within specified time of the DP timing switch 1 (DPTSW1) turning on.	2084 ms	1268 ms
		Scanning of previous original is not complete when DP timing switch 1 (DPTSW1) turns on.	-	-
	75 An original jam in the original conveying section	During single scanning, the DP timing switch 1 (DPTSW1) does not turn off within specified time of the original registration switch (ORSW) turning off.	1416 ms	862 ms
		During duplex switchback scanning, the DP timing switch 1 (DPTSW1) does not turn off within specified time of the original registration switch (ORSW) turning off.	1416 ms	862 ms
		During dual scanning, the DP timing switch 2 (DPTSW2) does not turn off within specified time of the original registration switch (ORSW) turning off.	656 ms	400 ms
	76 An original jam in the original switchback section 1	During duplex switchback scanning, the switchback tray switch (SBTSW) does not turn on within specified time of the DP timing switch 1 (DPTSW1) turning on.	2318 ms	1411 ms

Section	Jam code	Conditions	Specified time	
			25/25 ppm 30/30 ppm	40/40 ppm 50/40 ppm 55/50 ppm
DP	77 An original jam in the original switchback section 2	During duplex switchback scanning, the original registration switch (ORSW) does not turn on within specified time since original switchback operation starts.	935 ms	569 ms
	78 DP cover open JAM	The DP or DP top cover is opened during original feeding.	-	-
		When the power is turned on or original feeding starts, the original feed switch (OFSW), the original registration switch (ORSW) or DP timing switch 1/2 (DPTSW1/2) turning on.	-	-
	79 An original jam in the original eject section	During single scanning or dual scanning, the original eject switch (OESW) does not turn on within specified time of the DP timing switch 1 (DPTSW1) turning on.	1705 ms	1038 ms
		During duplex switchback scanning, the original eject switch (OESW) does not turn on within specified time since switchback ejection starts.	841 ms	512 ms
		During single scanning or dual scanning, the original eject switch (OESW) does not turn off within specified time of the DP timing switch 1 (DPTSW1) turning off.	1705 ms	1038 ms

Monochrome machine

Section	Jam code	Conditions	Specified time
DP	70 No original feed	The original feed switch (OFSW) does not turn on within specified time during the first sheet feeding (Retry 5 times).	1159 ms
		The original feed switch (OFSW) does not turn on within specified time during the second sheet feeding (Retry 5 times).	1159 ms
		During original tray ascent, the tray upper limit switch (TULSW) does not turn on within specified time.	2 s
	71 An original jam in the original feed section	The original registration switch (ORSW) does not turn on within specified time of the original feed switch (OFSW) turning on.	1013 ms
	72 An original jam in the original conveying section	DP timing switch 1 (DPTSW1) turns off within the specified time since the switch turns on.	914 ms
	73 An original jam in the original registration section	During single scanning, the DP timing switch 1 (DPTSW1) does not turn on within specified time of the original registration switch (ORSW) turning on (Retry 5 times).	1774 ms
		During duplex switchback scanning, the DP timing switch 1 (DPTSW1) does not turn on within specified time of the original registration switch (ORSW) turning on (Retry 5 times).	1774 ms
		During dual scanning, the DP timing switch 2 (DPTSW2) does not turn on within specified time of the original registration switch (ORSW) turning on (Retry 5 times).	1014 ms
	74 An original jam in the original feed section	The original feed switch (OFSW) or original registration switch (ORSW) does not turn off within specified time of the DP timing switch 1 (DPTSW1) turning on.	2084 ms
		Scanning of previous original is not complete when DP timing switch 1 (DPTSW1) turns on.	-
	75 An original jam in the original conveying section	During single scanning, the DP timing switch 1 (DPTSW1) does not turn off within specified time of the original registration switch (ORSW) turning off.	1416 ms
		During duplex switchback scanning, the DP timing switch 1 (DPTSW1) does not turn off within specified time of the original registration switch (ORSW) turning off.	1416 ms
		During dual scanning, the DP timing switch 2 (DPTSW2) does not turn off within specified time of the original registration switch (ORSW) turning off.	656 ms
	76 An original jam in the original switchback section 1	During duplex switchback scanning, the switchback tray switch (SBTSW) does not turn on within specified time of the DP timing switch 1 (DPTSW1) turning on.	2318 ms
	77 An original jam in the original switchback section 2	During duplex switchback scanning, the original registration switch (ORSW) does not turn on within specified time since original switchback operation starts.	935 ms
	78 DP cover open JAM	The DP or DP top cover is opened during original feeding.	-
		When the power is turned on or original feeding starts, the original feed switch (OFSW), the original registration switch (ORSW) or DP timing switch 1, 2 (DPTSW1, 2) turning on.	-

Section	Jam code	Conditions	Specified time
DP	79 An original jam in the original eject section	During single scanning or dual scanning, the original eject switch (OESW) does not turn on within specified time of the DP timing switch 1 (DPTSW1) turning on.	1705 ms
		During duplex switchback scanning, the original eject switch (OESW) does not turn on within specified time since switchback ejection starts.	841 ms
		During single scanning or dual scanning, the original eject switch (OESW) does not turn off within specified time of the DP timing switch 1 (DPTSW1) turning off.	1705 ms

(3) Paper misfeeds

Problem	Causes/check procedures	Corrective measures
(1) An original jams in DP is indicated during copying (no original feed). Jam code 70	Defective original feed switch.	Run maintenance item U244 and turn the original feed switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective original feed motor.	Run maintenance item U243 and select original feed motor on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Defective tray upper limit switch.	Run maintenance item U244 and turn the tray upper limit switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective original lift motor.	Run maintenance item U243 and select original lift motor on the touch panel to be turned on and off. Check the status and remedy if necessary.
(2) An original jams in DP is indicated during copying (jam in the original feed section). Jam code 71	Defective switch.	Run maintenance item U244 and turn the following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Original feed switch, original registration switch
	Defective motor.	Run maintenance item U243 and select the following motor on the touch panel to be turned on and off. Check the status and remedy if necessary. Original feed motor, original conveying motor
(3) An original jams in DP is indicated during copying (jam in the original conveying section). Jam code 72	Defective DP timing switch 1.	Run maintenance item U244 and turn the DP timing switch 1 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective motor.	Run maintenance item U243 and select the following motor on the touch panel to be turned on and off. Check the status and remedy if necessary. Original feed motor, original conveying motor
(4) An original jams in DP is indicated during copying (jam in the original registration section). Jam code 73	Defective switch.	Run maintenance item U244 and turn the following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Original registration switch, DP timing switch 1/2
	Defective motor.	Run maintenance item U243 and select the following motor on the touch panel to be turned on and off. Check the status and remedy if necessary. Original feed motor, original conveying motor
(5) An original jams in DP is indicated during copying (jam in the original feed section). Jam code 74	Defective switch.	Run maintenance item U244 and turn the following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. DP timing switch1, original feed switch, original registration switch
	Defective motor.	Run maintenance item U243 and select the following motor on the touch panel to be turned on and off. Check the status and remedy if necessary. Original feed motor, original conveying motor
(6) An original jams in DP is indicated during copying (jam in the original conveying section). Jam code 75	Defective switch.	Run maintenance item U244 and turn the following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Original registration switch, DP timing switch 1/2
	Defective motor.	Run maintenance item U243 and select the following motor on the touch panel to be turned on and off. Check the status and remedy if necessary. Original feed motor, original conveying motor

Problem	Causes/check procedures	Corrective measures
(7) An original jams in DP is indicated during copying (jam in the original switchback section 1). Jam code 76	Defective switch.	Run maintenance item U244 and turn the following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. DP timing switch 1, switchback tray switch
	Defective motor.	Run maintenance item U243 and select the following motor on the touch panel to be turned on and off. Check the status and remedy if necessary. Original conveying motor, original switchback motor
(8) An original jams in DP is indicated during copying (jam in the original switchback section 2). Jam code 77	Defective original registration switch.	Run maintenance item U244 and turn the original registration switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective motor.	Run maintenance item U243 and select the following motor on the touch panel to be turned on and off. Check the status and remedy if necessary. Original switchback motor, original feed motor
(9) A original jam in the DP is indicated as soon as the main power switch is turned on. (DP cover open JAM). Jam code 78	A piece of paper torn from original is caught around original feed switch, original registration switch or DP timing switch 1/2.	Check visually and remove it, if any.
	Defective switch.	Run maintenance item U244 and turn the following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Original feed switch, original registration switch, DP timing switch 1/2
(10) An original jams in DP is indicated during copying (jam in the original eject section). Jam code 79	Defective switch.	Run maintenance item U244 and turn the following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. DP timing switch 1, original eject switch
	Defective motor.	Run maintenance item U243 and select the following motor on the touch panel to be turned on and off. Check the status and remedy if necessary. Original feed motor, original switchback motor

1-4-2 Self-diagnosis

(1) Self-diagnostic function

This unit is equipped with a self-diagnostic function. When a problem is detected, copying is disabled and the problem displayed as a code consisting of C followed by a number, indicating the nature of the problem.
A message is also displayed requesting the user to call for service.
After removing the problem, the self-diagnostic function can be reset by turning safety switches off and back on.

(2) Self diagnostic codes

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C3210	**CIS lamp problem** When input value at the time of CIS illumination does not exceed the threshold value between 5 s.	Poor contact in the connector terminals.	Check the connection of connector on the ISM PWB and the connector on the DP driver PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective DP driver PWB.	Replace the DP driver PWB and check for correct operation.
		Defective DP inverter PWB.	Replace the DP inverter PWB and check for correct operation.
		Defective CIS.	Replace the CIS and check for correct operation.
C3310	**CIS AGC problem** After AGC, correct input is not obtained at CIS.	Defective DP driver PWB.	Replace the DP driver PWB and check for correct operation.
		CIS output problem.	Replace the CIS and check for correct operation.
		Defective DP inverter PWB.	Replace the DP inverter PWB and check for correct operation.
C9000	**DP communication problem** A communication error is detected.	Poor contact in the connector terminals.	Check the connection of connector YC6 on the ISM PWB and the connector of the DP, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective PWB.	Replace the DP driver PWB or ISM PWB and check for correct operation.
C9040	**DP lift motor going up error** The tray upper limit switch does not turn on within 2 s of DP lift motor turning on.	Loose connection of the DP lift motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the DP lift motor.	Replace the DP lift motor and check for correct operation.
		Loose connection of the tray upper limit switch connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the tray upper limit switch.	Replace the tray upper limit switch and check for correct operation.
		Defective DP driver PWB.	Replace the DP driver PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C9050	**DP lift motor going down error** The tray lower limit switch does not turn on within 2 s of DP lift motor turning on.	Loose connection of the DP lift motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the DP lift motor.	Replace the DP lift motor and check for correct operation.
		Loose connection of the tray lower limit switch connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the tray lower limit switch.	Replace the tray lower limit switch and check for correct operation.
		Defective DP driver PWB.	Replace the DP driver PWB and check for correct operation.
C9060	**DP EEPROM error** Read and write data does not match. Data in the specified area of the backup memory does not match the specified values.	Defective DP main PWB.	Replace the DP main PWB and check for correct operation.
		Device damage of EEPROM.	Contact the Service Administrative Division.
C9070	**Communication problem between DP and SHD** A communication error is detected.	Loose connection of the SHD PWB.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective SHD PWB.	Replace the SHD PWB and check for correct operation.
C9080	**Communication problem between DP and CIS** Reading cannot be performed correctly.	Loose connection of CIS.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective CIS.	Replace CIS and check for correct operation.

1-4-3 Electric problems

Troubleshooting to each failure must be in the order of the numbered symptoms.

Problem	Causes	Check procedures/corrective measures
(1) The original feed motor, original conveying motor, original switchback motor or DP lift motor does not operate.	1. Poor contact in the connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
	3. Defective motor.	Run maintenance item U243 and check if the motor operates. If not, replace the motor.
	4. Defective DP driver PWB.	Run maintenance item U243 and check if the motor operates. If not, replace the DP driver PWB.
(2) The switchback feedshift solenoid or switchback pressure solenoid does not operate.	1. Poor contact in the connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Defective solenoid.	Run maintenance item U243 and check if the solenoid operates. If not, replace the solenoid.
	3. Defective DP driver PWB.	Run maintenance item U243 and check if the solenoid operates. If not, replace the DP driver PWB.
(3) A message indicating cover open is displayed when the DP is closed correctly.	1. Poor contact in the connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Defective DP interlock switch.	Check for continuity across the contacts of the switch. If none when the switch is on, replace DP interlock switch.
(4) An original jams when the main power switch is turned on.	1. A piece of paper torn from original is caught around original feed switch, original registration switch or DP timing switch 1/2.	Remove any found.
	2. Defective switch.	Run maintenance item U244 and turn the switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Original feed switch, original registration switch or DP timing switch 1/2

1-4-4 Mechanical problems

Problem	Causes/check procedures	Corrective measures
(1) No primary original feed.	The surfaces of the DP original feed belt, DP forwarding pulley or DP separation pulley are dirty with paper powder.	Check and clean them with isopropyl alcohol if they are dirty.
	Check if the DP original feed belt, DP forwarding pulley or DP separation pulley is deformed.	If so, replace (see page 1-5-2, 5).
(2) No secondary original feed.	The registration pulley and the registration roller do not contact each other correctly.	Check and clean them with isopropyl alcohol if they are dirty.
(3) Originals jam.	Originals outside the specifications are used.	Use only originals conforming to the specifications.
	The surfaces of the DP original feed belt, DP forwarding pulley or DP separation pulley are dirty with paper powder.	Check and clean them with isopropyl alcohol if they are dirty.
	The eject pulley and the eject roller do not contact each other correctly.	Check visually and remedy if necessary.

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1-5-1 Precautions for assembly and disassembly

(1) Precautions

Before starting disassembly, press the Power key on the operation panel to off. Make sure that the Power indicator and the Memory indicator are off before turning off the main power switch. And then unplug the power cable from the wall outlet.
Turning off the main power switch before pressing the Power key to off may cause damage to the equipped hard disk.
When handling PWBs (printed wiring boards), do not touch parts with bare hands. The PWBs are susceptible to static charge.
Do not touch any PWB containing ICs with bare hands or any object prone to static charge.
When removing the hook of the connector, be sure to release the hook.
Take care not to get the cables caught.
To reassemble the parts, use the original screws. If the types and the sizes of screws are not known, refer to the PARTS LIST.

Output Connector for Interconnecting Cable is non-LPS.
Output: 587 VA max.
Please use the item below Interconnecting Cable/
P/N: 303LK46010, 303LL46010

1-5-2 Assembly and disassembly

(1) Detaching and refitting the DP original feed belt and DP forwarding pulley

Follow the procedure below to replace the DP original feed belt and DP forwarding pulley.

Procedure

1. Open the DP top cover.
2. Remove the screw and then remove the original feed shaft guide.

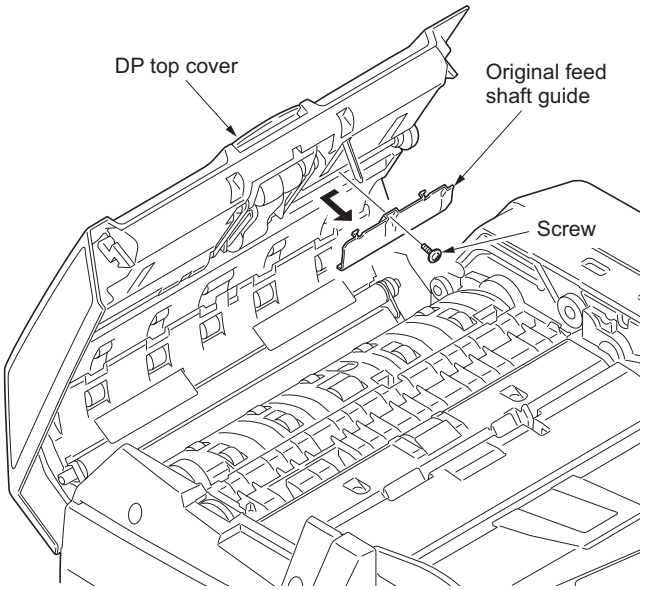

Figure 1-5-1

3. Remove the stop ring and then remove the original feed unit from the DP.

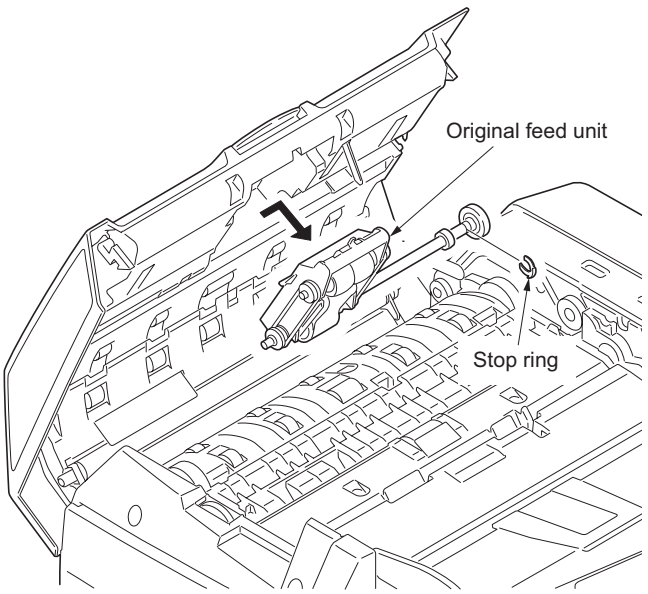

Figure 1-5-2

4. Remove the original feed belt unit from the inserted parts of the original feed unit.

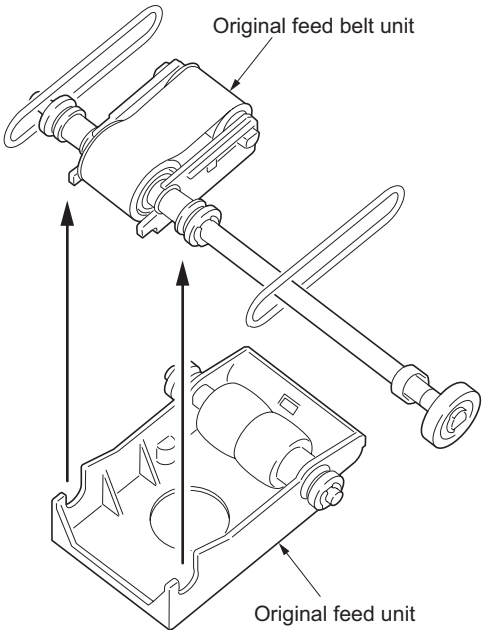

Figure 1-5-3

5. Remove two stop rings from the original feed belt shaft A.
6. Remove the pulley, pin and original feed holder from the shorter shaft side.
   Slide the pulley and the original feed holder at the longer shaft side.
7. Pull out the original feed belt shaft A from the original feed belt unit and then remove the original feed collar A.

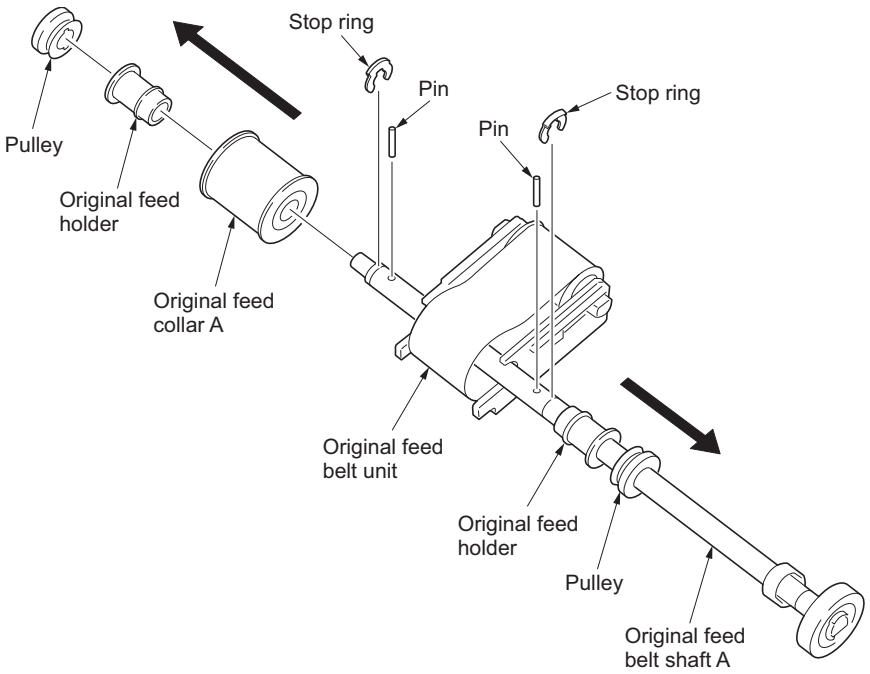

Figure 1-5-4

8. Remove the original feed belt shaft B from the original feed belt unit.
9. Remove the original feed collar B and DP original feed belt from original feed belt shaft B.

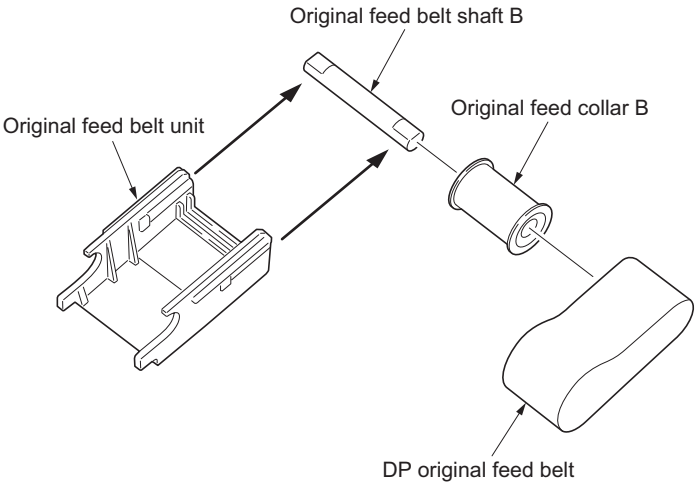

Figure 1-5-5

10. Remove two stop rings from the forwarding pulley shaft.
11. Remove each two pulleys and pins.
12. Pull out the forwarding pulley shaft from the original feed unit and then remove the DP forwarding pulley.
13. Check or replace the DP original feed belt and DP forwarding pulley and refit all the removed parts.

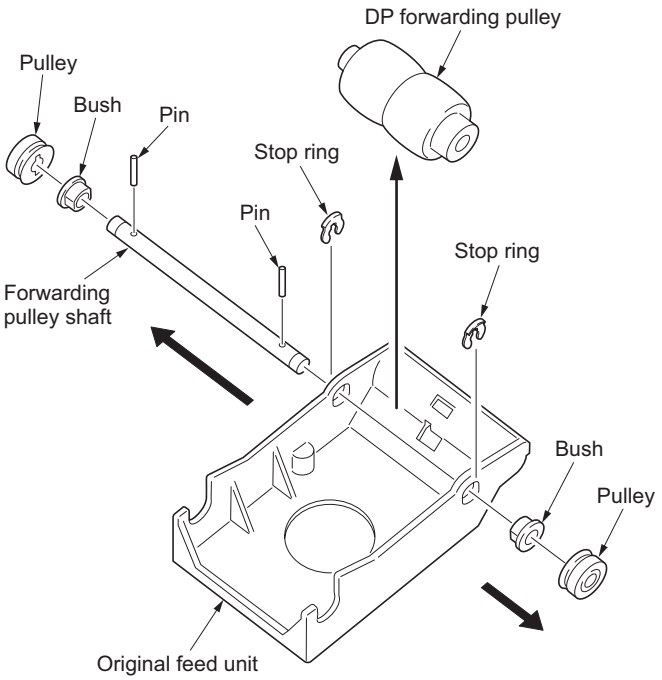

Figure 1-5-6

(2) Detaching and refitting the DP separation pulley

Follow the procedure below to replace the DP separation pulley.

Procedure

1. Open the DP top cover.
2. Open the upper shift guide.
3. Remove two screws and then remove the lower original feed guide.

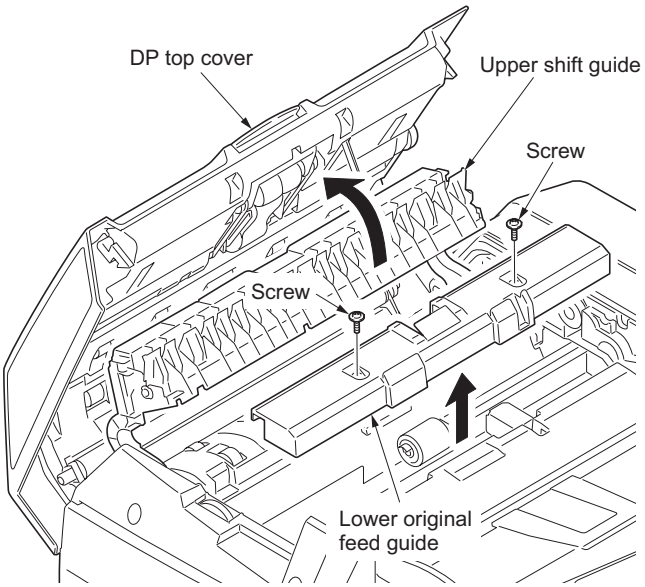

Figure 1-5-7

4. Remove the stop ring and then DP separation pulley and torque limiter.
5. Check or replace the DP separation pulley and refit all the removed parts.

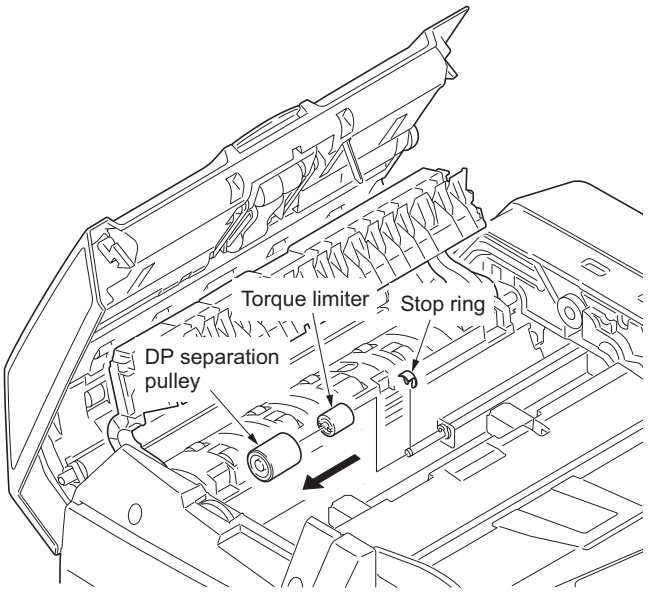

Figure 1-5-8

(3) Detaching and refitting the CIS (dual scan DP only)

Follow the procedure below to replace the CIS.

Procedure

1. Open the DP top cover.
2. Remove two screws and then remove the DP front left cover.

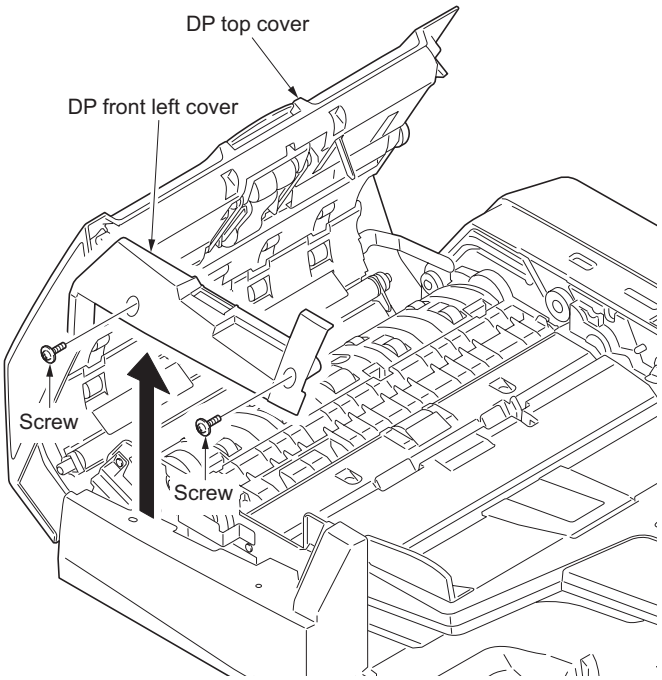

Figure 1-5-9

3. Remove the two screws from the back side of document processor.
4. Release two inserted parts and then remove the DP front cover.

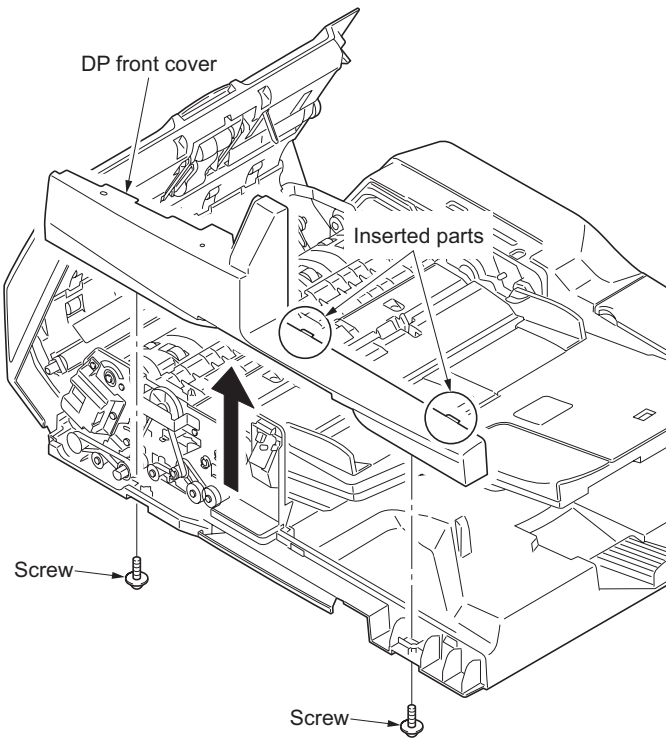

Figure 1-5-10

5. Remove the screw and pin and then remove the upper conveying guide.

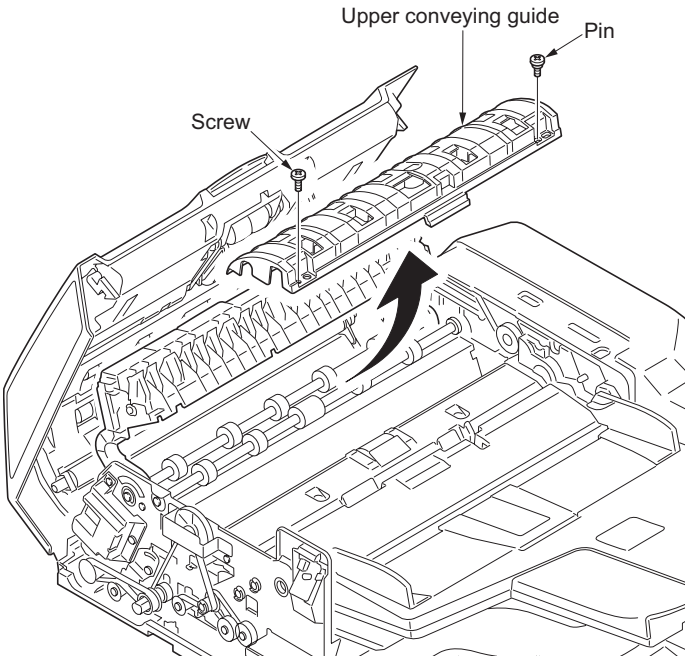

Figure 1-5-11

6. Pull out the projection and remove the upper shift guide.

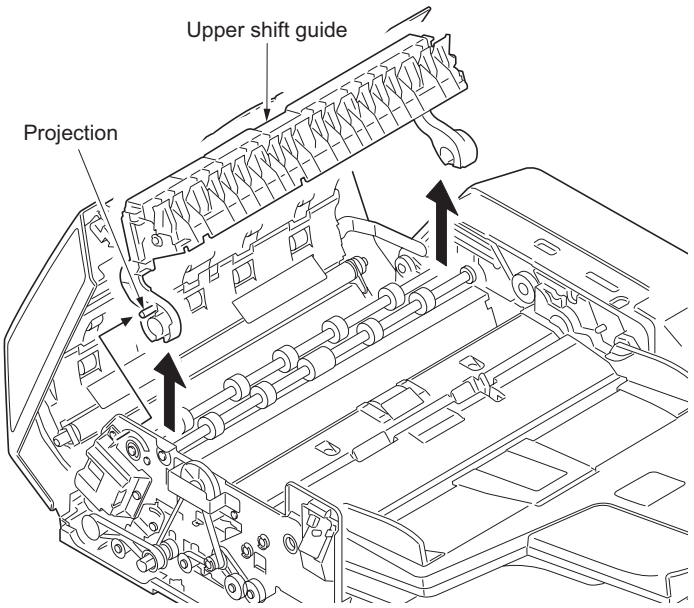

Figure 1-5-12

7. Remove the conveying cover.

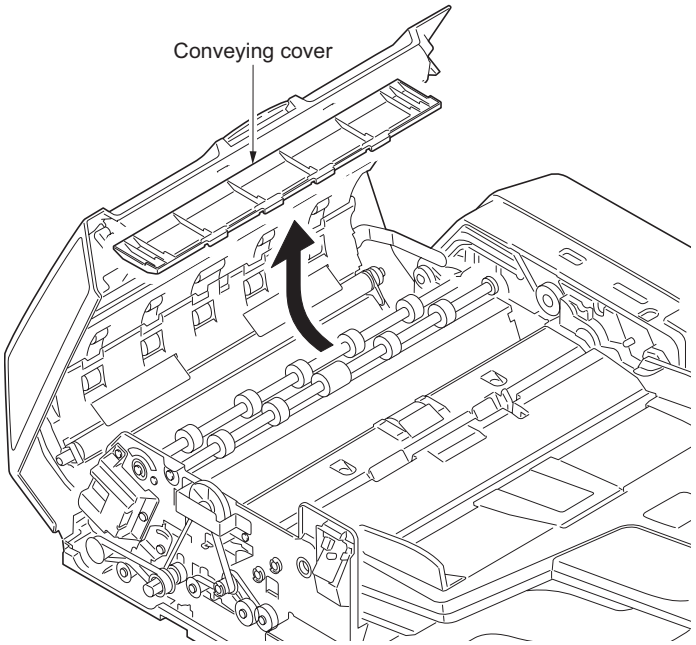

Figure 1-5-13

8. Remove the stop ring and bush.
9. Slide the registration roller toward the rear side of machine and let escape the front side of roller as shown in the figure.

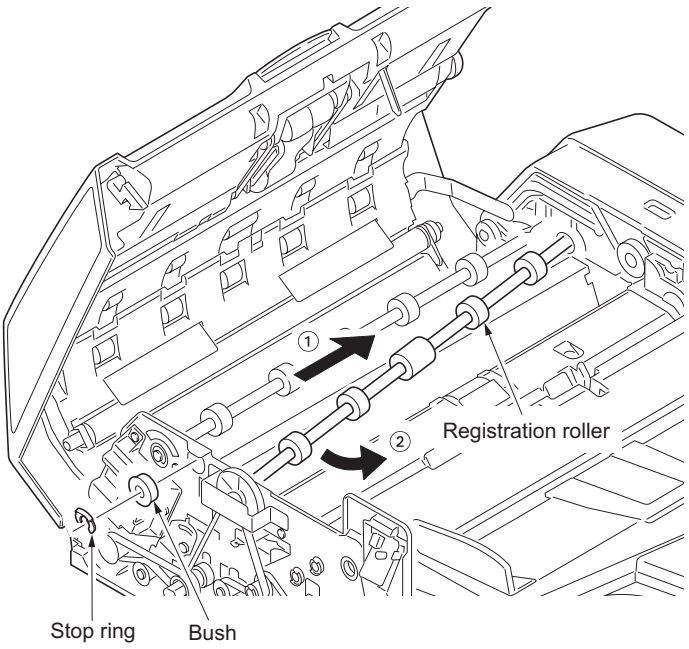

Figure 1-5-14

10. Remove the FFC (flexible flat cable) from the connector of CIS.
11. Remove the connector from the DP inverter PWB.
12. Remove the ground screw and then remove the ground wire.
13. Remove three screws and then remove the CIS.

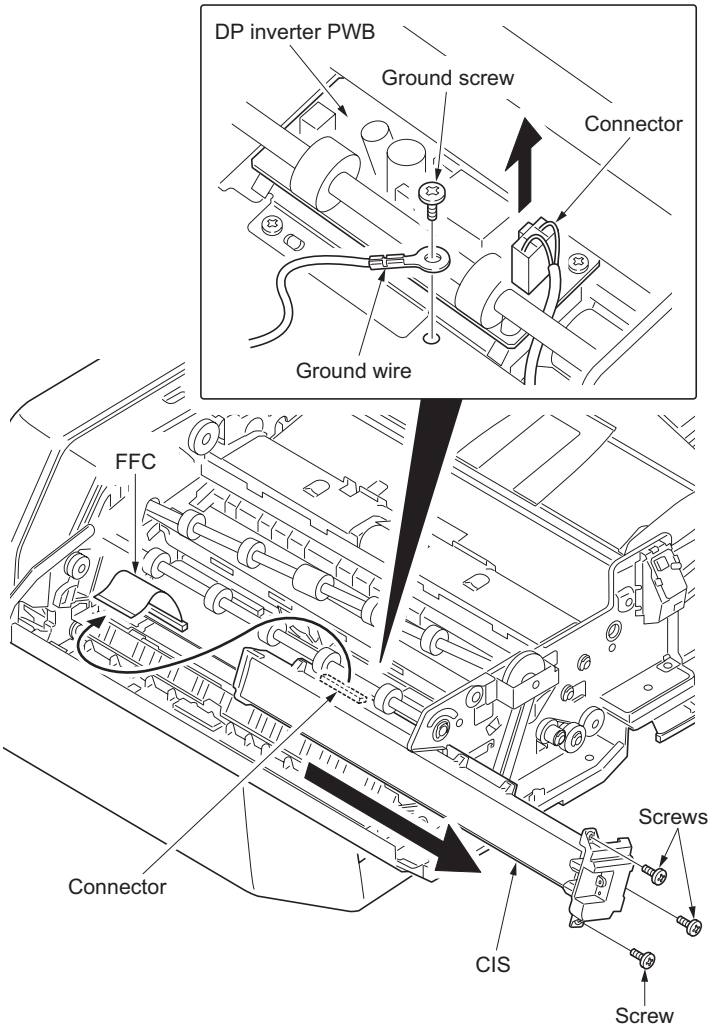

Figure 1-5-15

14. Remove the screw and then remove the CIS guide from CIS.
15. Replace the CIS and Install the CIS to the DP.
    Caution
    Be sure to refit the ground wire that has been removed in step 12.
16. Refit all the removed parts.

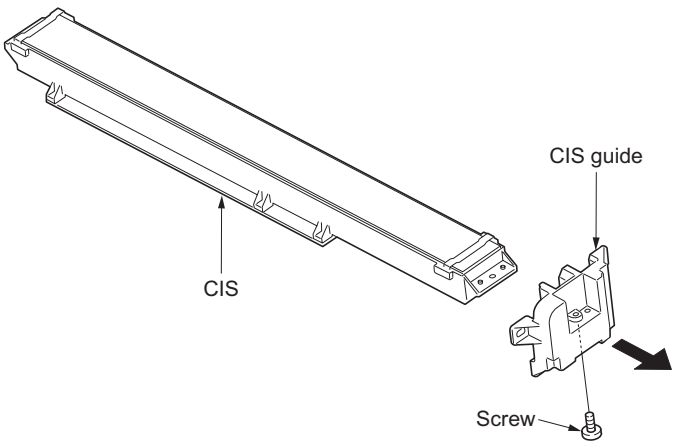

Figure 1-5-16

17. When the CIS is replaced with a new one, carry out the following procedure.
18. Clean the CIS roller and contact glass (CIS).
19. Perform maintenance mode U091 (setting the white line correction) (see page 1-3-10, 33).
20. Make a test copy of a gray document.
    If problems such as white lines appear on the test copy, repeat the procedure from steps 18 and 19 onwards until the white lines no longer appear.
21. Perform maintenance mode U411 (Adjusting the scanner automatically) (see page 1-3-15, 38).

1-5-3 Image adjustment

(1) Adjusting the angle of leading edge

Perform the following adjustment if the leading edge of the copy image is laterally skewed.

Procedure

1. Place an original on the DP and press the start key to make a test copy.
2. If the gap of leading edge exceeds the reference value, perform the following adjustment.
   Reference value
   For simplex copying: Within ±3.0 mm
   For duplex copying: Within ±4.0 mm

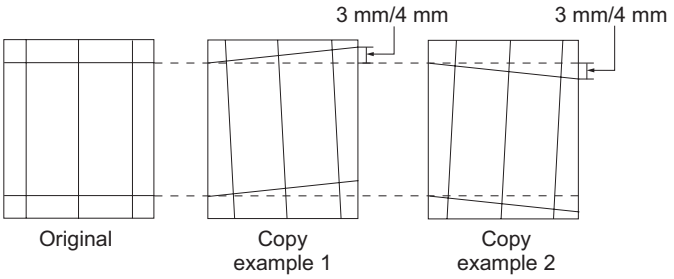

Figure 1-5-17

3. Loosen two screws of right and left fixing fittings.

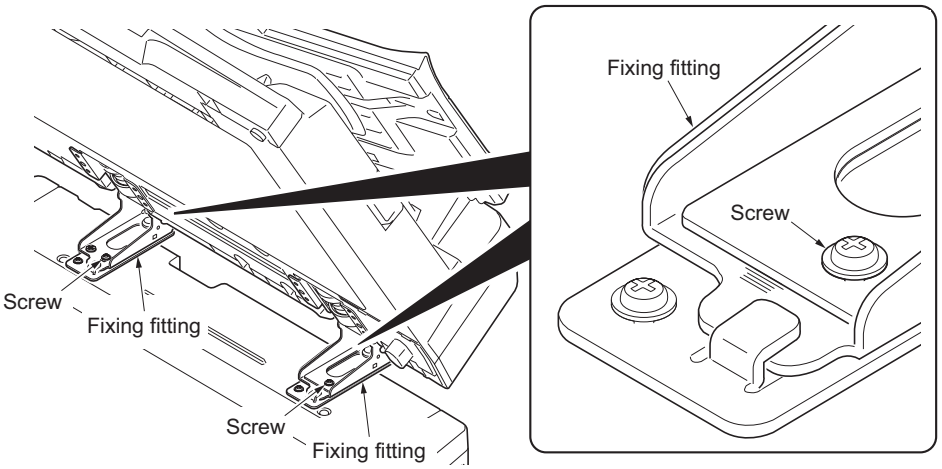

Figure 1-5-18

4. Turn adjusting screw at the rear side of the right hinge to adjust the DP position.
   For copy example 1: Turn the adjusting screw counterclockwise and move the DP to the inner side.
   For copy example 2: Turn the adjusting screw clockwise and move the DP to the front side.
   Amount of change per scale: Approx. 1 mm
5. Make a test copy.
6. Repeat the steps above until the gap of the leading edge falls within the reference values.
7. After adjustment is completed, retighten two screws that have been loosened in step 3.

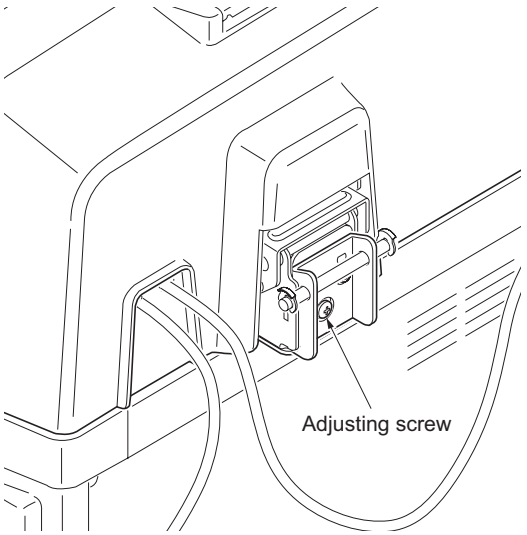

Figure 1-5-19

8. Remove the original mat.
9. Place original mat with its Velcro upward over the contact glass.
   Align original mat corner that has 90 degrees of angle with the inner left corner of the original instruction panel.
10. Close DP and attach original mat onto it with Velcro.

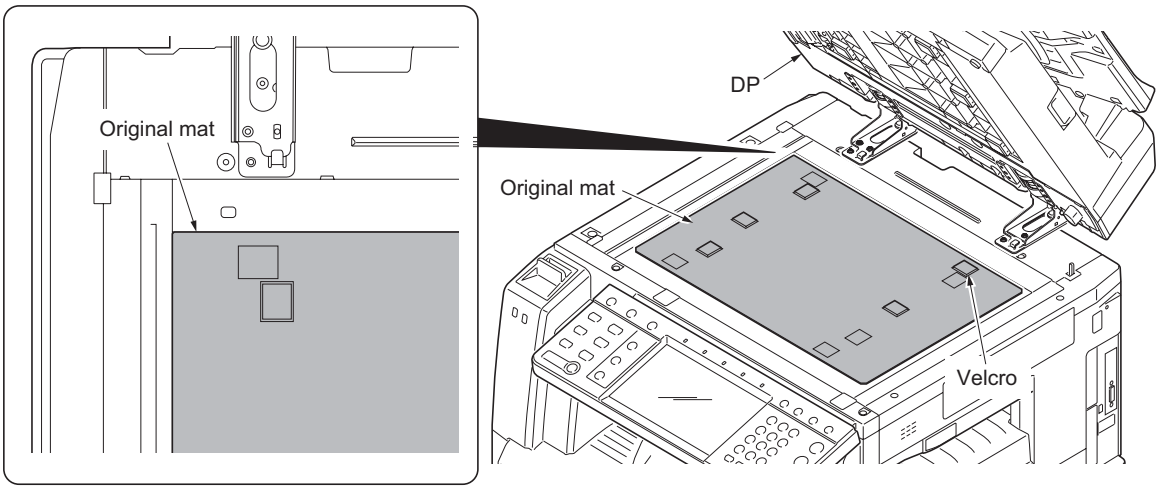

Figure 1-5-20

(2) Adjusting the angle of trailing edge

Perform the following adjustment if the trailing edge of the copy image is laterally skewed.

Procedure

1. Place an original on the DP and press the start key to make a test copy.
2. If the gap of trailing edge exceeds the reference value, perform the following adjustment.
   Reference value
   For simplex copying: Within ±3.0 mm
   For duplex copying: Within ±4.0 mm

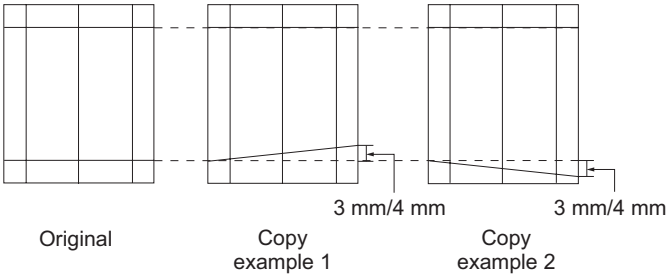

Figure 1-5-21

3. Open the DP top cover.
4. Remove four screws and then remove the DP rear cover.

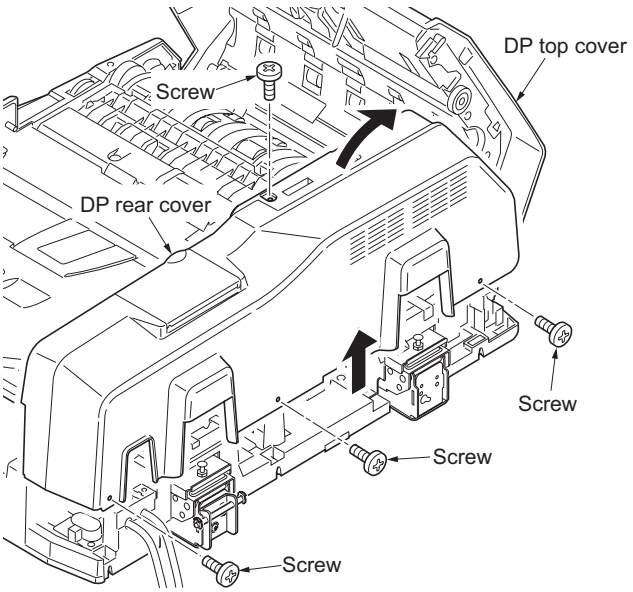

Figure 1-5-22

5. Adjust the height of DP.
   Loosen the nut.
   For copy example 1: Loosen the adjusting screw.
   For copy example 2: Tighten the adjusting screw.
   Amount of change per scale: Approx. 0.5 mm
   Retighten the nut.
6. Refit the DP rear cover.

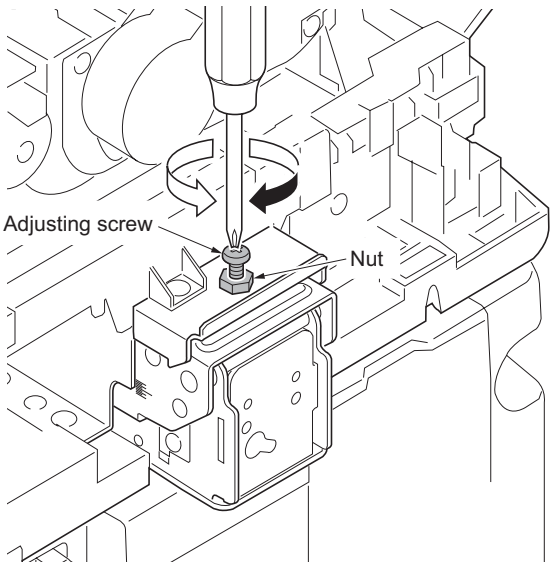

Figure 1-5-23

7. Remove the original mat.
8. Place original mat with its Velcro upward over the contact glass.
   Align original mat corner that has 90 degrees of angle with the inner left corner of the original instruction panel.
9. Close DP and attach original mat onto it with Velcro.

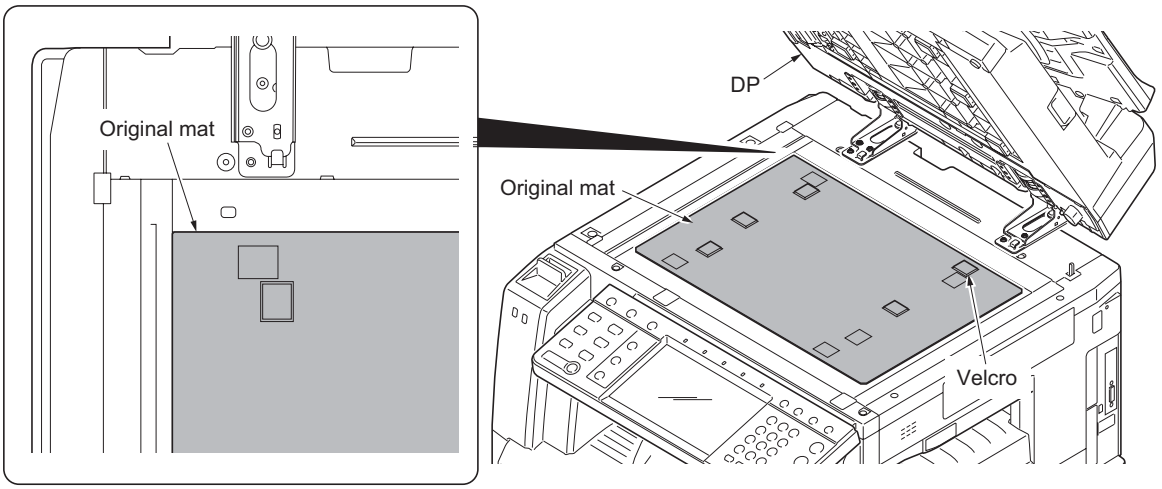

Figure 1-5-24

10. Make a test copy again.
11. Repeat steps 1 to 9 above until the gap of the trailing edge falls within the reference values.

1-6-1 Remarks on DP driver PWB replacement

When replacing the DP driver PWB, remove the EEPROM (U2) from the DP driver PWB that has been removed and then reattach it to the new DP driver PWB.

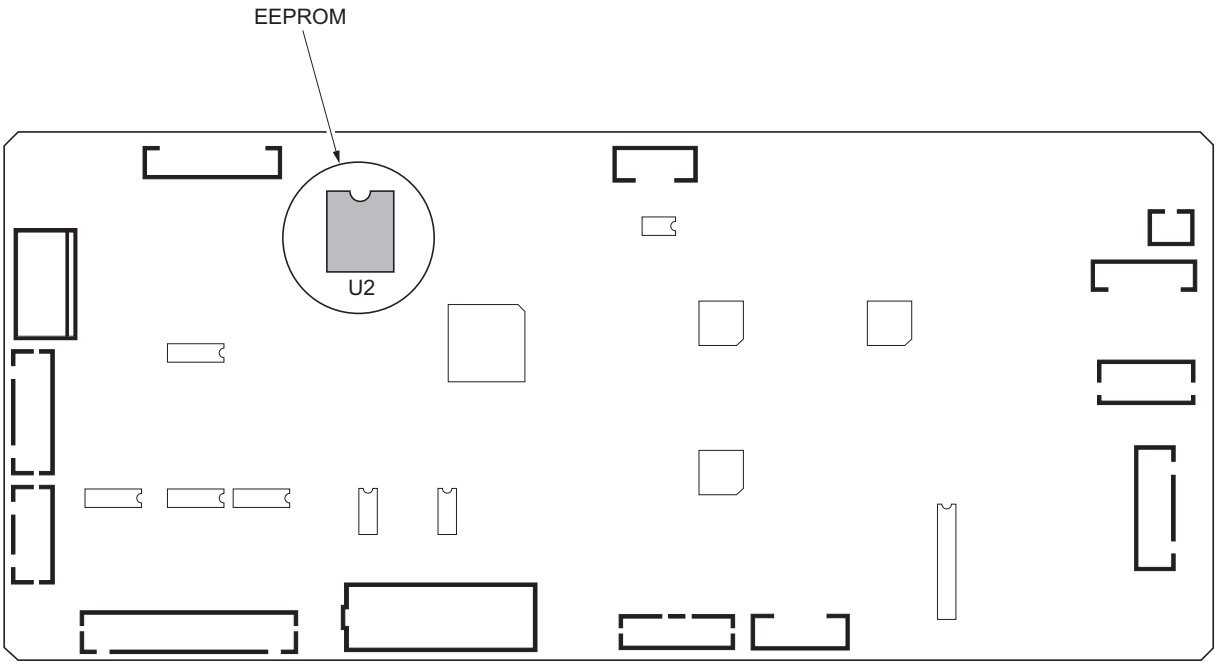

Figure 1-6-1 DP driver PWB

When the DP driver PWB is replaced with a new one, carry out the following procedure.

1. Clean the CIS roller and contact glass (CIS).
2. Perform maintenance mode U091 (setting the white line correction) (see page 1-3-10, 33).
3. Make a test copy of a gray document.
   If problems such as white lines appear on the test copy, repeat the procedure from steps 1 and 2 onwards until the white lines no longer appear.
4. Perform maintenance mode U411 (Adjusting the scanner automatically) (see page 1-3-15, 38).

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2-1-1 Original feed section

The original feed section consists of the parts shown in figure. An original placed on the original table is conveyed to the original conveying section. Original is fed by the rotation of the DP forwarding pulley and DP original feed belt. The DP separation pulley prevents multiple sheets from being fed at one time, via the torque limiter.

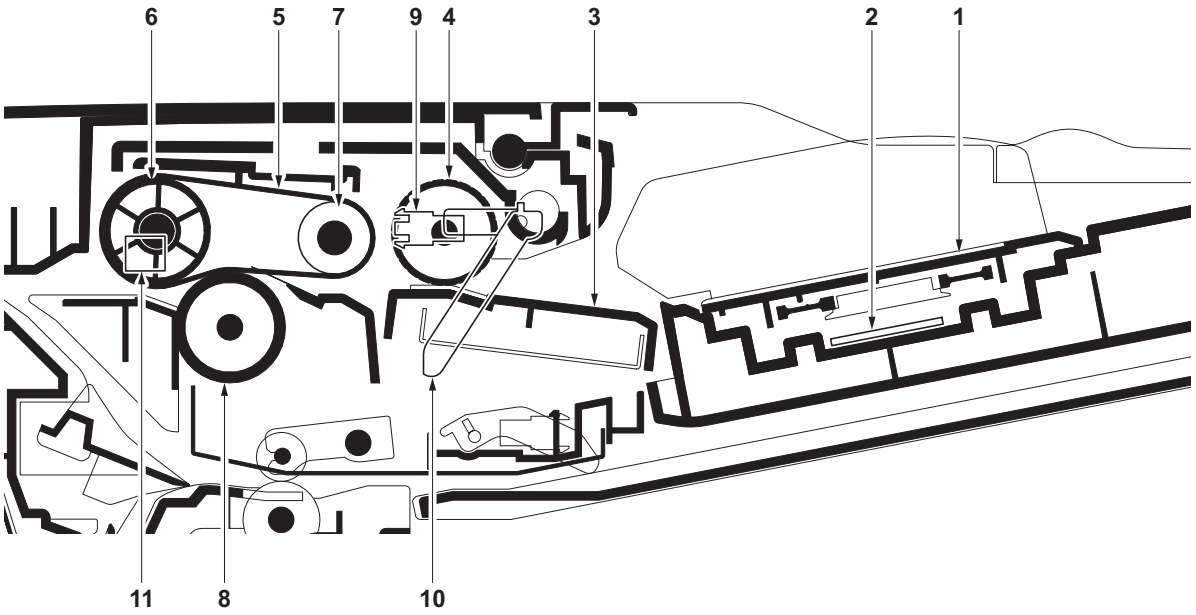


Figure 2-1-1 Original feed section

(1) Original tray
(2) Original size width switch (OWSW)
(3) Original lift guide
(4) DP forwarding pulley
(5) DP original feed belt
(6) Original feed collar A
(7) Original feed collar B
(8) DP separation pulley
(9) Original set switch (OSSW)
(10) Actuator (original set switch)
(11) Original feed switch (OFSW)

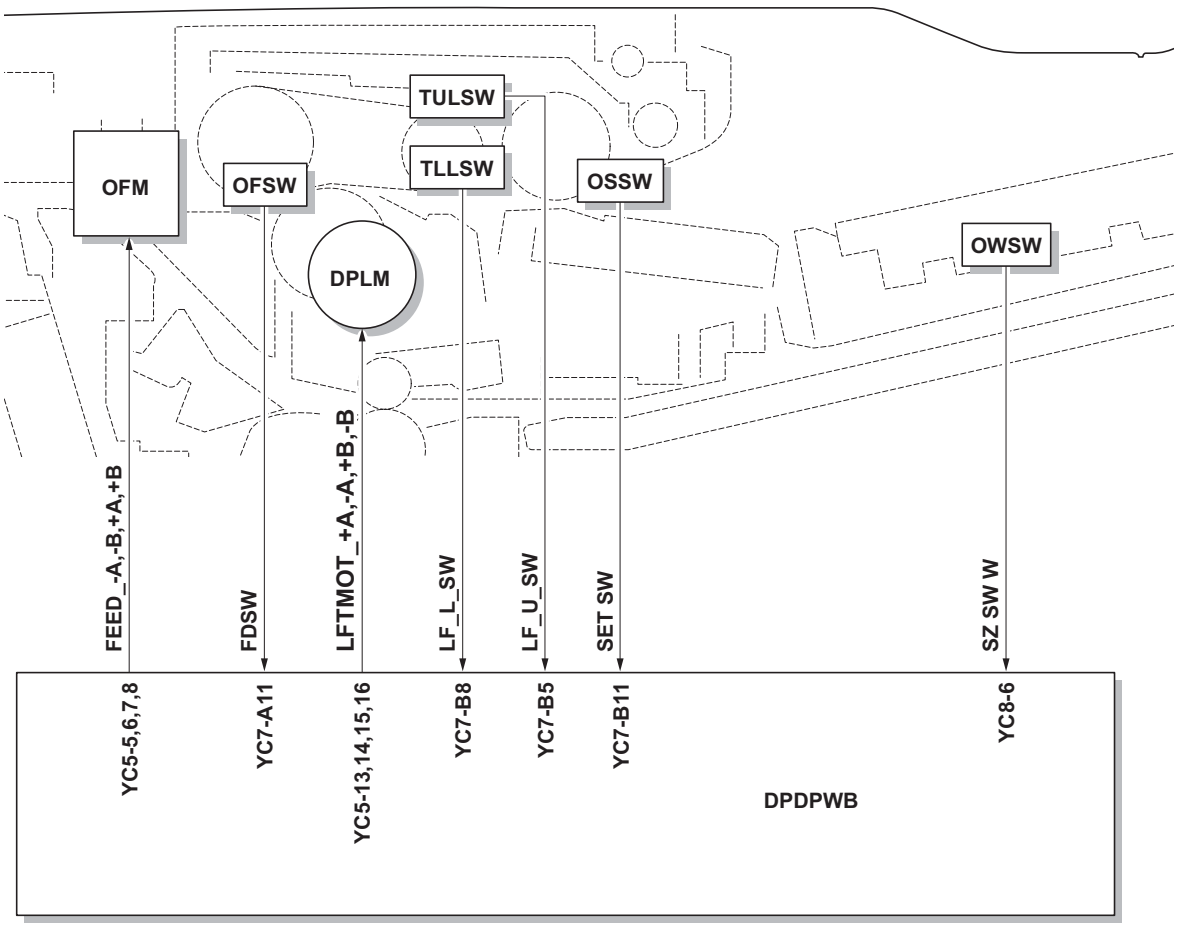


Figure 2-1-2 Original feed section block diagram

2-1-2 Original conveying section

The original conveying section consists of the parts shown in figure. A conveyed original is scanned by the optical section (CCD) of machine when it passes through the slit glass of machine.
In the case of dual scan DP, the second side is scanned at CIS and the first side is scanned at the slit glass, resulting in simultaneous scanning.

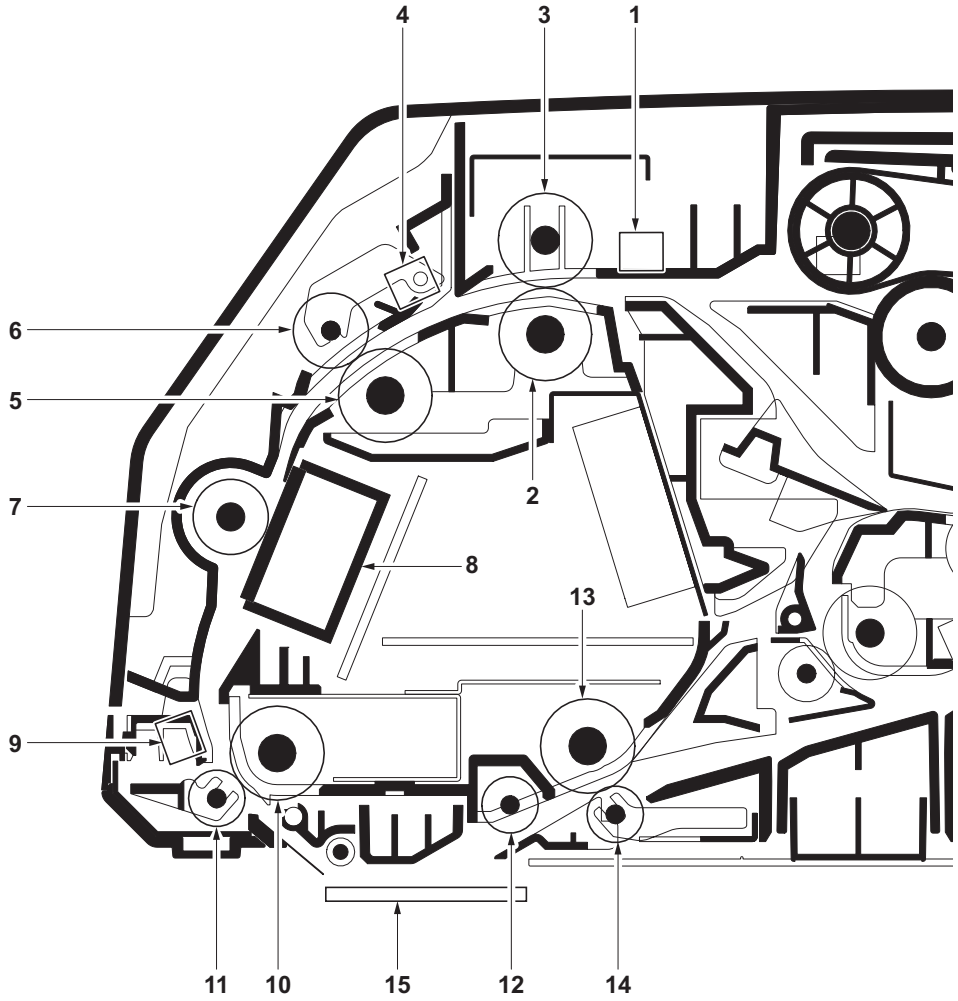


Figure 2-1-3 Original conveying section

(1) Original registration switch (ORSW)
(2) Registration roller
(3) Registration pulley
(4) DP timing switch 2 (DPTSW2)*
(5) Upper conveying roller
(6) Conveying pulley
(7) CIS roller*
(8) CIS*
(9) DP timing switch 1 (DPTSW1)
(10) Left conveying roller
(11) Conveying pulley
(12) Conveying pulley
(13) Right conveying roller
(14) Conveying pulley
(15) Slit glass (machine main body)

*: Dual scan DP only.

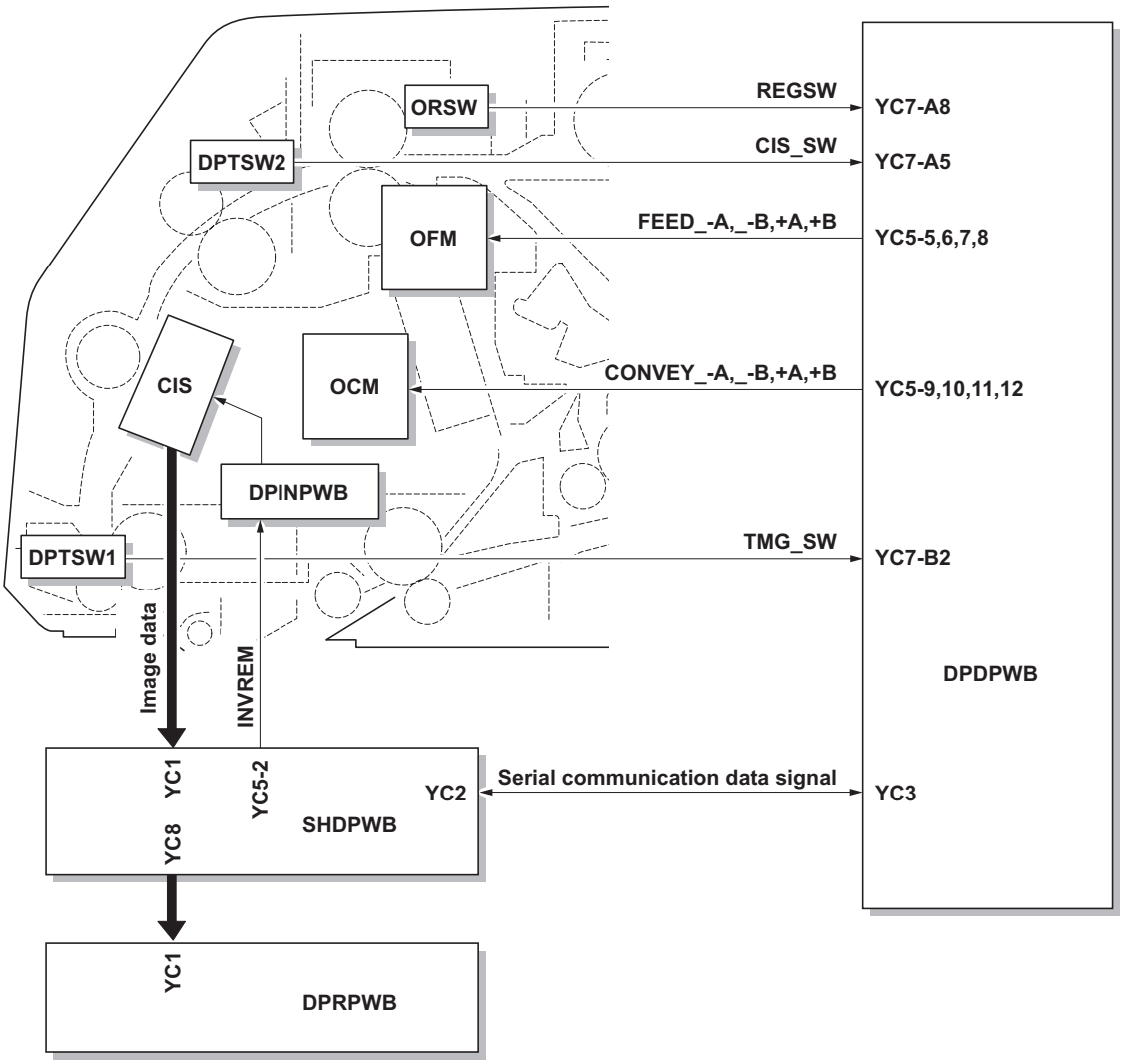


Figure 2-1-4 Original conveying section block diagram

2-1-3 Original switchback/eject sections

The original switchback/eject sections consists of the parts shown in figure. An original of which scanning is complete is ejected to the original eject table by the eject roller. In the case of duplex switchback scanning, an original is conveyed temporarily to the switchback tray and conveyed again to the original conveying section by the switchback roller.

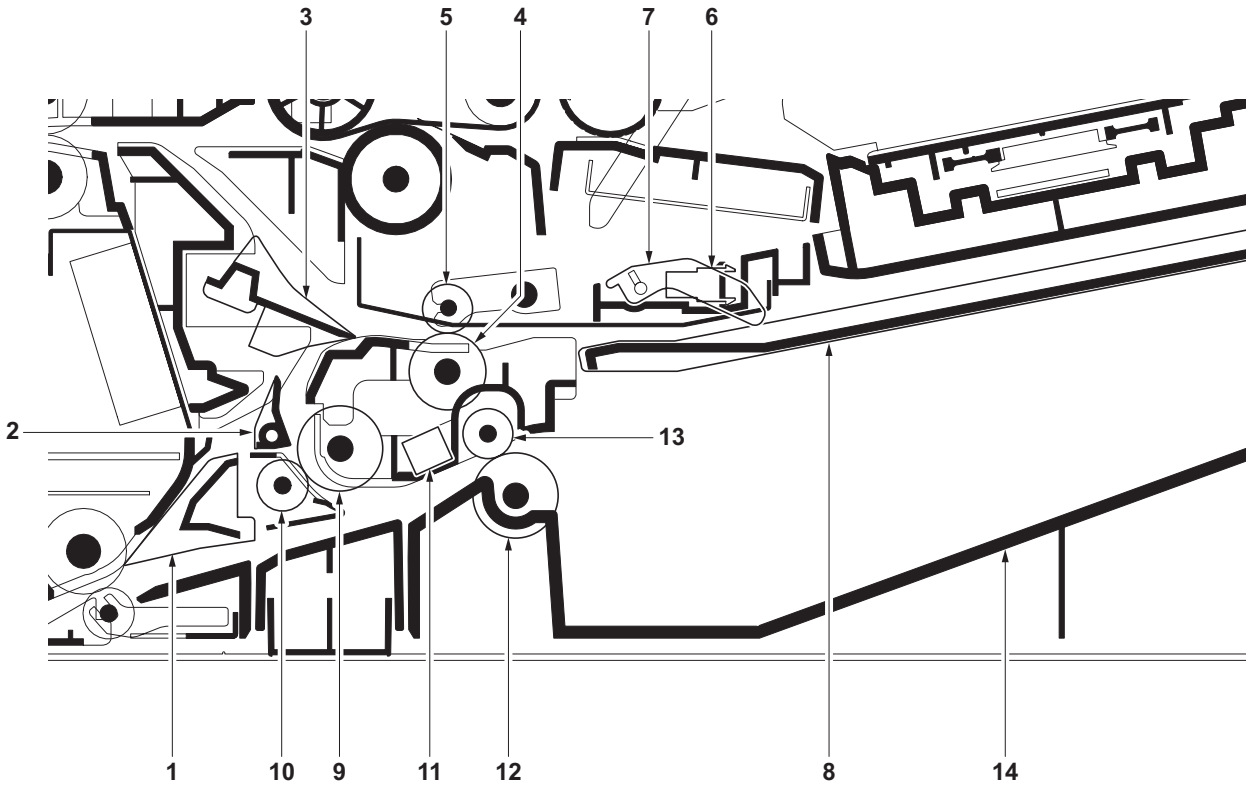


Figure 2-1-5 Original switchback/eject sections

(1) Switchback feedshift guide
(2) Eject feedshift guide
(3) Upper feedshift guide
(4) Switchback roller
(5) Switchback pulley
(6) Switchback tray switch (SBTSW)
(7) Actuator (switchback tray switch)
(8) Switchback tray
(9) Feedshift roller
(10) Feedshift pulley
(11) Original eject switch (OESW)
(12) Eject roller
(13) Eject pulley
(14) Original eject table

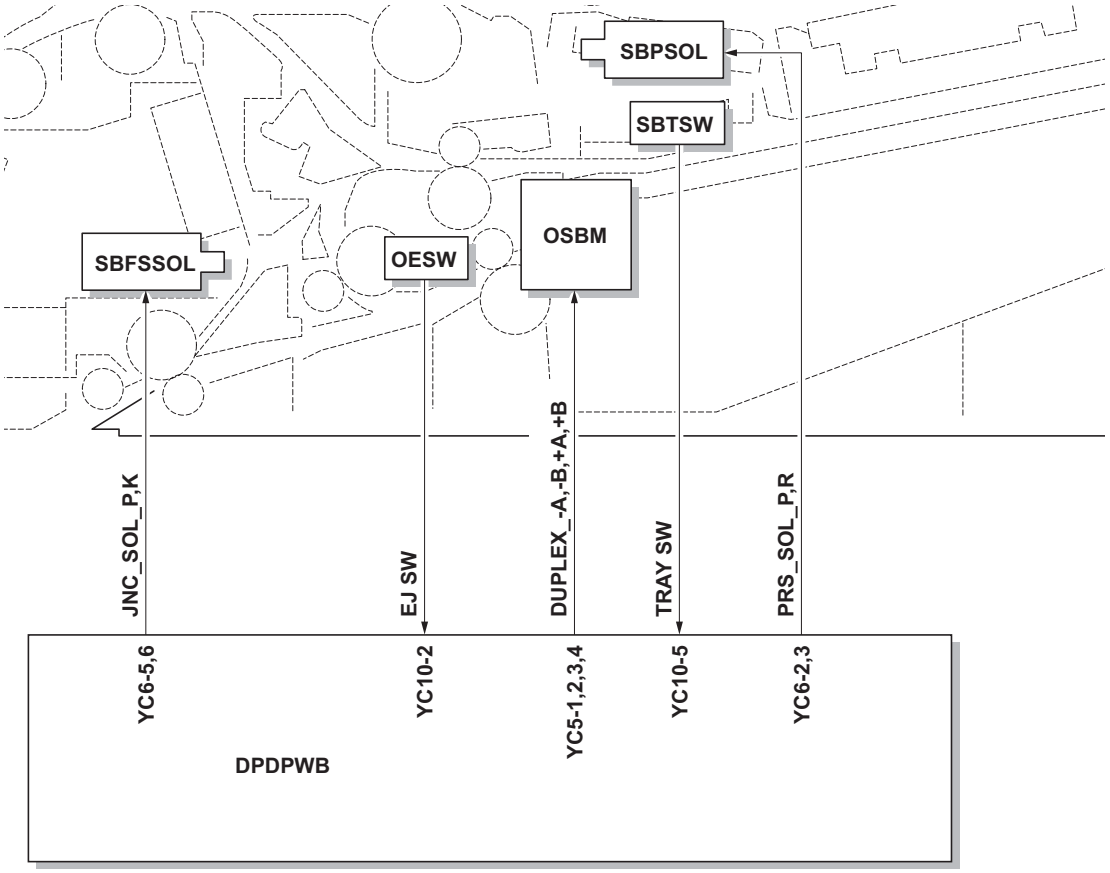
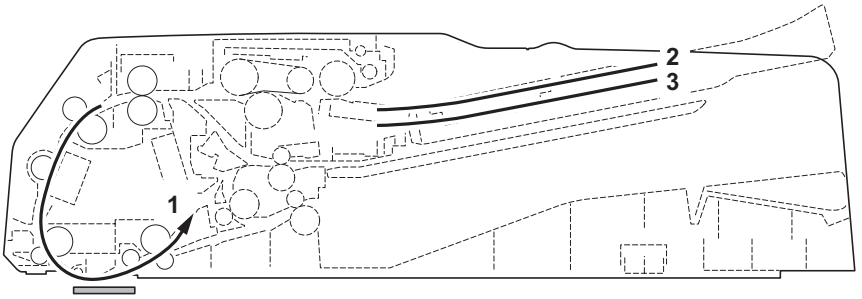


Figure 2-1-6 Original switchback/eject sections block diagram

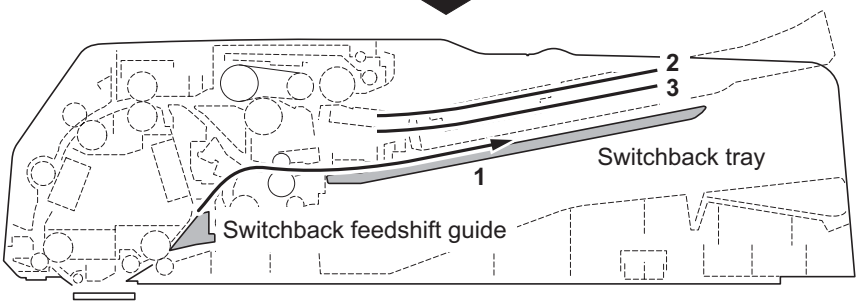
(1) Reverse duplex scanning operation

The first side of original is scanned at the slit glass (machine main body).

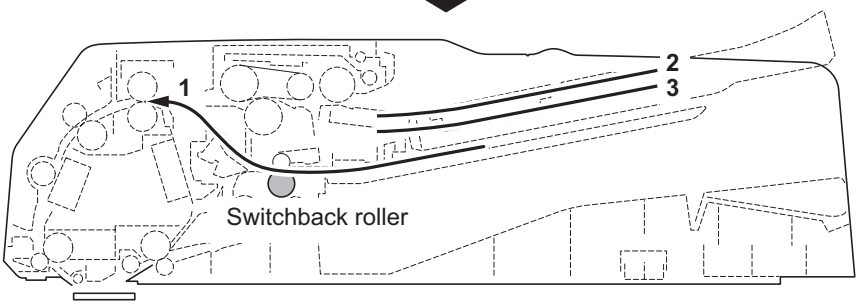


Slit glass: first side scanning

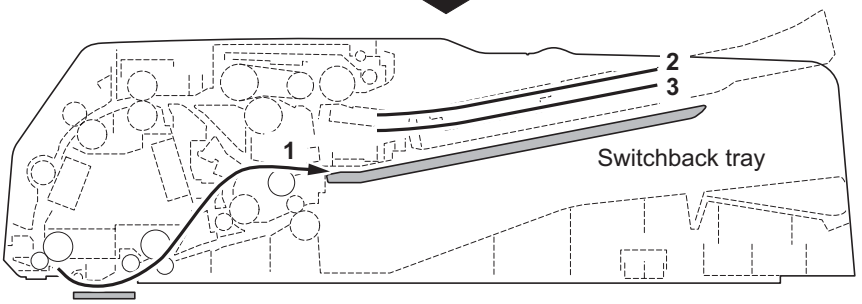
Conveyed to the switchback tray by the switchback feedshift guide.



The original is reversed by the switchback roller.



The second side of original is scanned at the slit glass (machine main body) and the original is conveyed to the switchback tray.



Slit glass: second side scanning

Ejected to the original eject table by the switchback, feedshift and eject rollers.

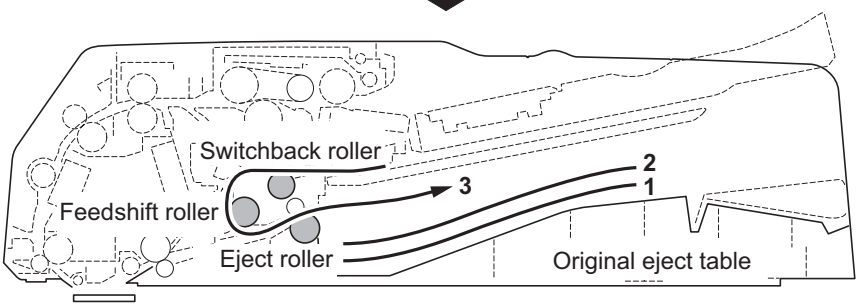


Figure 2-1-7

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2-2-1 Electrical parts layout

(1) PWBs

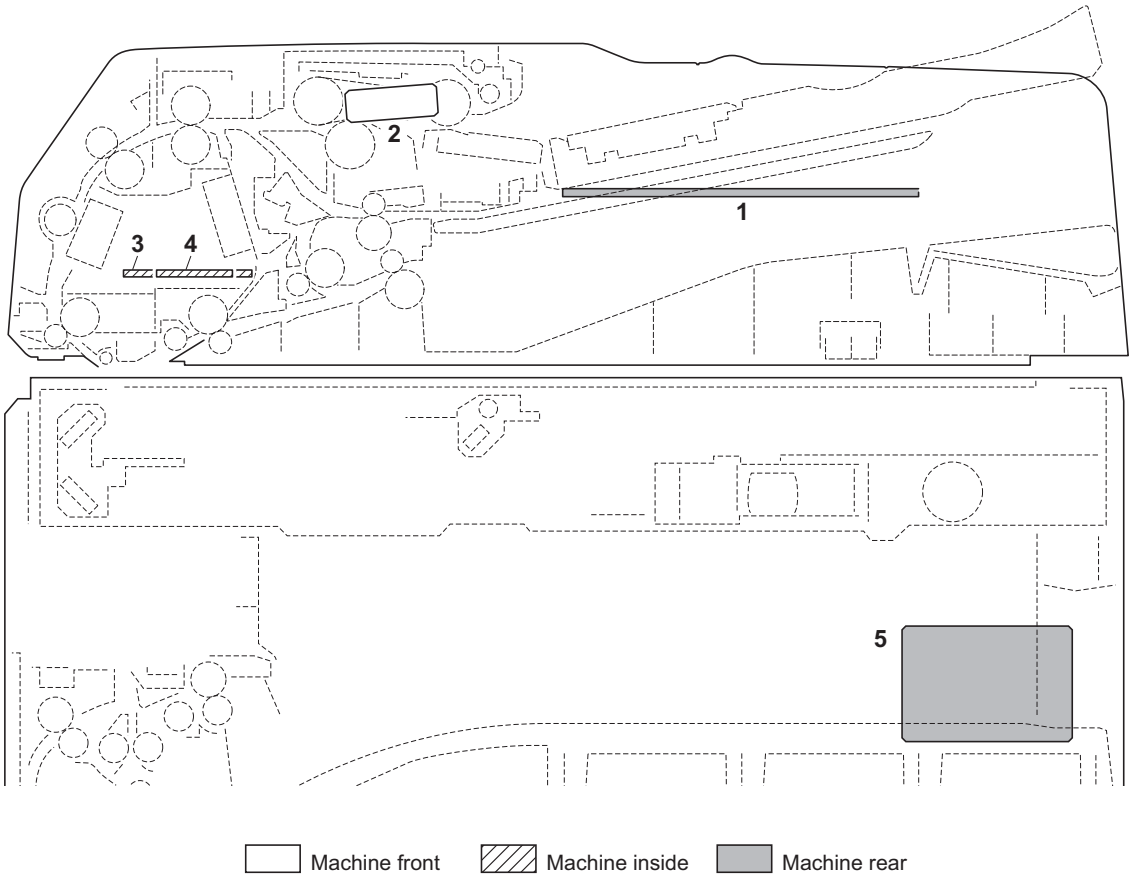

Figure 2-2-1 PWBs

1. DP driver PWB (DPDPWB)..... Controls electrical components.
2. LED PWB (LEDPWB) ..... Indicates presence of originals or an original jam.
3. SHD PWB (SHDPWB)*..... Controls the image processing.
4. DP inverter PWB (DPINPWB)* ..... Controls the light source of built-in CIS.
5. DP relay PWB (DPRPWB)* ..... Relay of image data.

*: Dual scan DP only.

(2) Switches and sensors

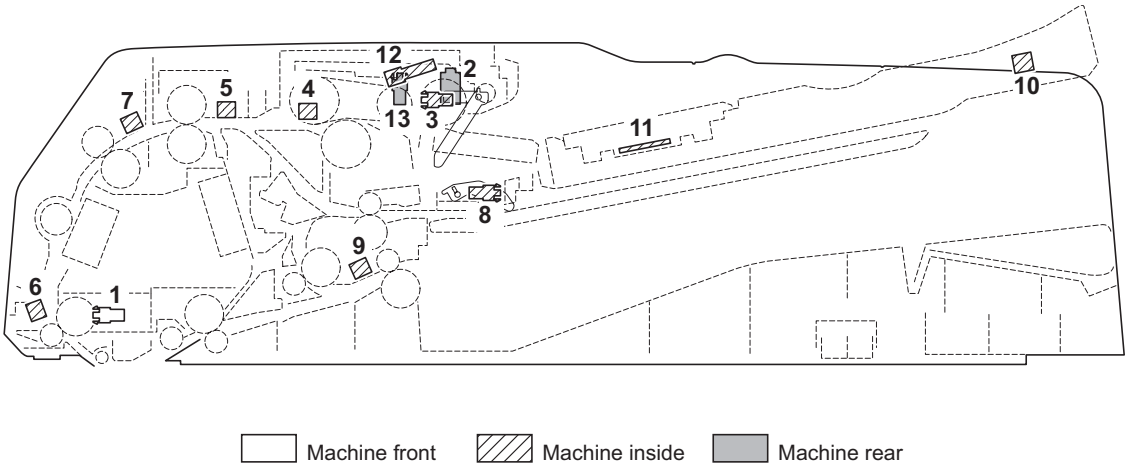

Figure 2-2-2 Switches and sensors

1. DP open/close switch (DPOCSW)..... Detects the opening/closing of the DP.
2. DP interlock switch (DPILSW) ..... Breaks the safety circuit when the document processor is opened; resets original misfeed detection.
3. Original set switch (OSSW) ..... Detects the presence of an original.
4. Original feed switch (OFSW) ..... Detects primary original feed end timing.
5. Original registration switch (ORSW) ..... Detects the original conveying timing.
6. DP timing switch 1 (DPTSW1)..... Detects the original scanning timing.
7. DP timing switch 2 (DPTSW2)*..... Detects the original scanning timing.
8. Switchback tray switch (SBTSW)..... Detects the original in switchback tray section.
9. Original eject switch (OESW)..... Detects an original misfeed in the original eject section.
10. Original size length switch (OLSW) ..... Detects the length of the original.
11. Original size width switch (OWSW) ..... Detects the width of the original.
12. Tray upper limit switch (DPLULSW)..... Detects the original tray reaching the upper limit.
13. Tray lower limit switch (DPLLLSW)..... Detects the original tray reaching the lower limit.

*: Dual scan DP only.

(3) Motors

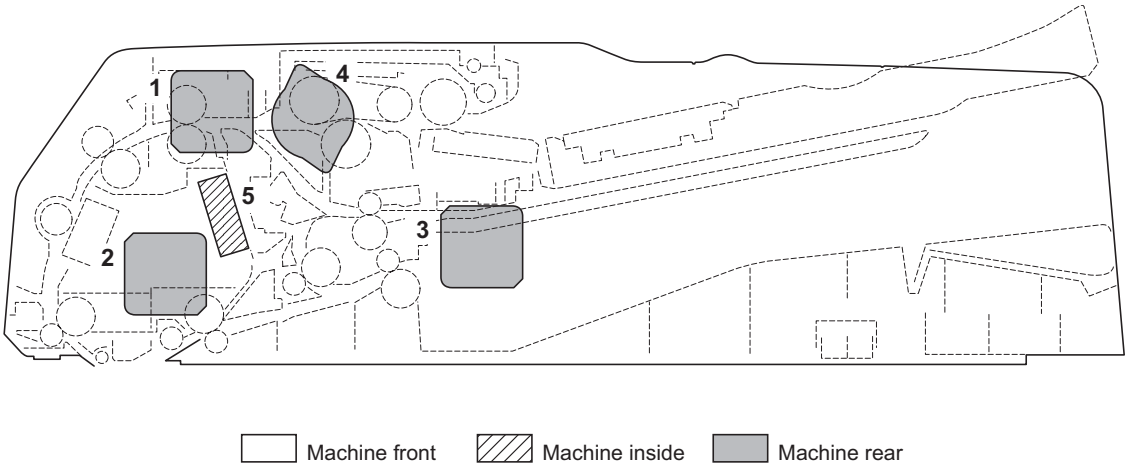

Figure 2-2-3 Motors

1. Original feed motor (OFM)..... Drives the original feeding section.
2. Original conveying motor (OCM) ..... Drives the original conveying section.
3. Original switchback motor (OSBM)..... Drives the switchback roller.
4. DP lift motor (DPLM)..... Operates the original lift guide.
5. DP fan motor (DPFM)*..... Cools the CIS.

*: Dual scan DP only.

(4) Others

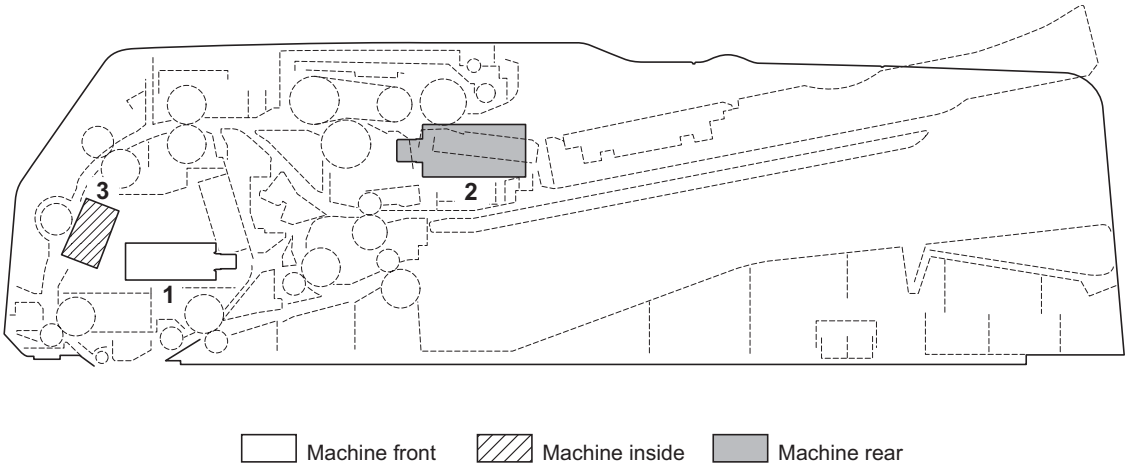

Figure 2-2-4 Others

1. Switchback feedshift solenoid (SBFSSOL).. Operates the switchback feedshift guide.
2. Switchback pressure solenoid (SBPSOL).... Operates the switchback pulley.
3. CIS (CIS)* ..... Reads the image of originals.

*: Dual scan DP only.

2-3-1 DP driver PWB

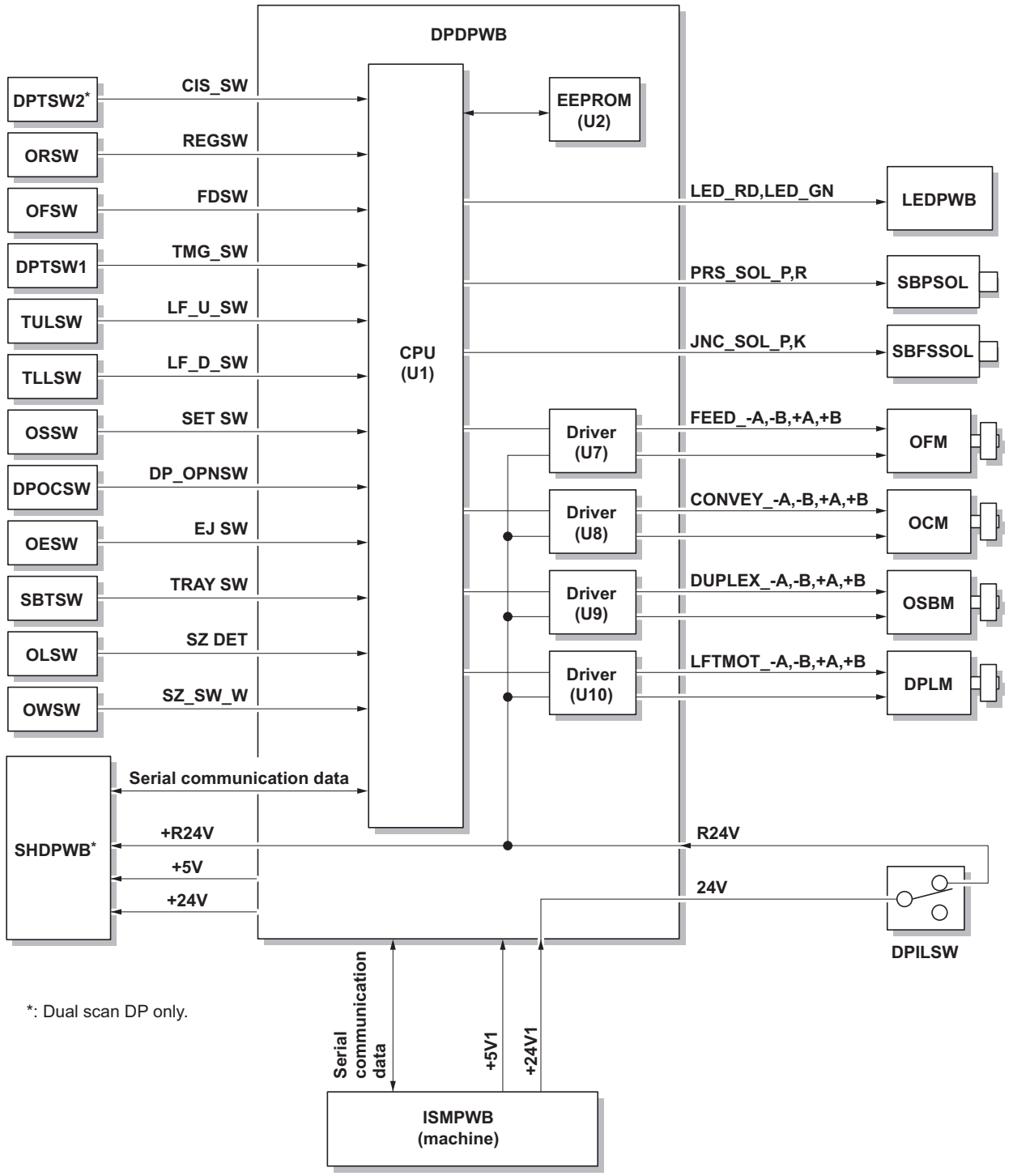

Figure 2-3-1 DP driver PWB block diagram

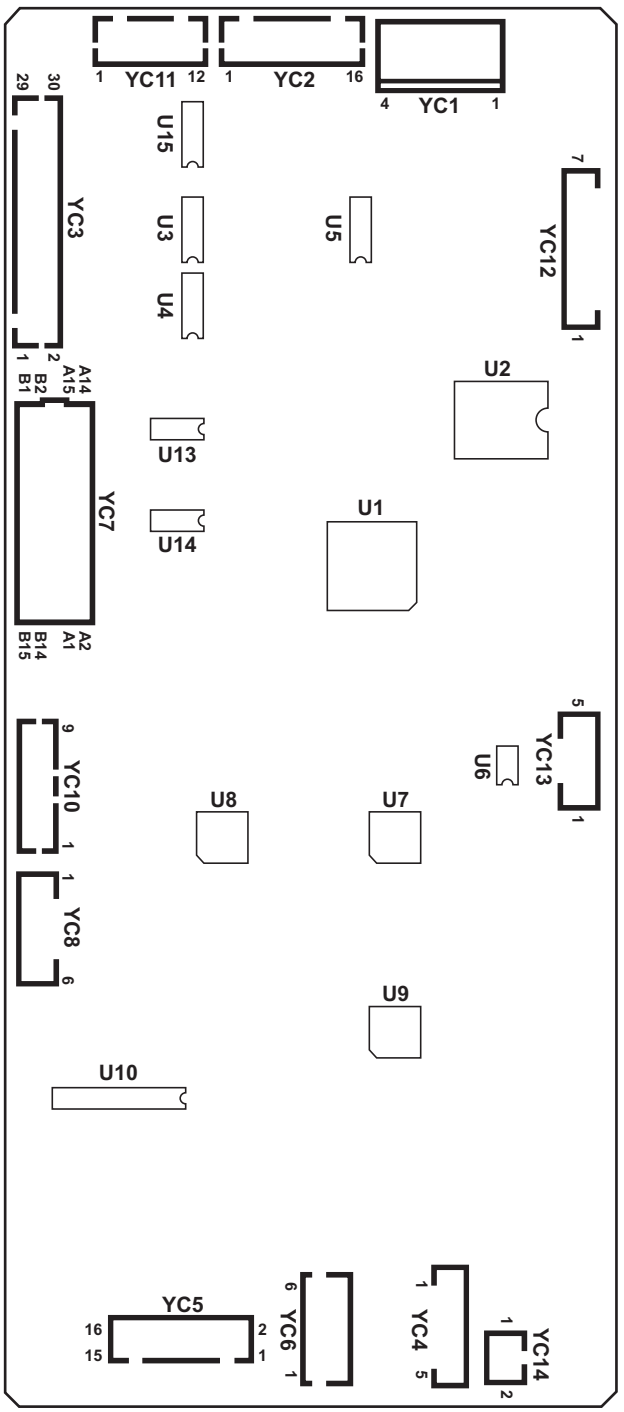

Figure 2-3-2 DP driver PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	GND	-	-	Ground
Connected to the machine	2	5V	I	5 V DC	5 V DC power input from machine
	3	GND	-	-	Ground
	4	24V	I	24 V DC	24 V DC power input from machine
YC2	1	DPSDI	I	0/5 V DC (pulse)	Serial communication data signal from machine
Connected to the machine	2	DPSDO	O	0/5 V DC (pulse)	Serial communication data signal to machine
	3	DPCLK	I	0/5 V DC (pulse)	Clock signal from machine
	4	DPSEL	I	0/5 V DC	Select signal from machine
	5	DPRDY	O	0/5 V DC	Ready signal to machine
	6	DPEND	O	0/5 V DC	End signal to machine
	7	GND1	-	-	Ground
	8	GND2	-	-	Ground
	9	GND3	-	-	Ground
	10	GND4	-	-	Ground
	11	DPTMG	O	0/5 V DC	Timing signal to machine
	12	NC1	-	-	Not used
YC3	1	+R24V	O	24 V DC	24 V DC power output to SHDPWB
Connected to the SHD PWB (dual scan DP only.)	2	GND1	-	-	Ground
	3	GND2	-	-	Ground
	4	GND3	-	-	Ground
	5	+24V1	O	24 V DC	24 V DC power output to SHDPWB
	6	+24V2	O	24 V DC	24 V DC power output to SHDPWB
	7	RGCLK	O	0/5 V DC (pulse)	RGCLK signal
	8	RGLD	O	0/5 V DC	RGLD signal
	9	RGRDWR	O	0/5 V DC	RGRDWR signal
	10	RGDATA	I	0/5 V DC	RGDATA signal
	11	RESETN	I	0/5 V DC	RESET signal
	12	PAGEST	O	0/5 V DC	PAGEST signal
	13	CIS_EN	O	0/5 V DC	CIS_EN signal
	14	RGOUT	O	0/5 V DC	RGOUT signal
	15	OVMONOUT	O	0/5 V DC	OVMONOUT signal
	16	CPURDY	I	0/5 V DC	CPURDY signal
	17	CPUSEL	O	0/5 V DC	CPUSEL signal
	18	CPU_SI	I	0/5 V DC (pulse)	CPU_SI signal
	19	CPU_SO	O	0/5 V DC (pulse)	CPU_SO signal
	20	CPU_CLK	O	0/5 V DC (pulse)	CPU_CLK signal
	21	CIS_12VON	O	0/5 V DC	CIS_12VON signal
	22	CIS_5VON	O	0/5 V DC	CIS_5VON signal
	23	EESCLK	I	0/5 V DC (pulse)	EESCLK signal
	24	EESDA	O	0/5 V DC (pulse)	EESDA signal
	25	SHD_DET	I	0/5 V DC	SHD_DET signal
	26	INVERTER	O	0/5 V DC	INVERTER signal
	27	+5V1	O	5 V DC	5 V DC power output to SHDPWB
	28	+5V2	O	5 V DC	5 V DC power output to SHDPWB

Connector	Pin No.	Signal	I/O	Voltage	Description
YC3	29	GND4	-	-	Ground
Connected to the SHD PWB	30	GND5	-	-	Ground
YC4	1	R24V	O	24 V DC	24 V DC power output
Connected to the DP interlock switch	2	N.C.	-	-	Not used
	3	R24V	I	24 V DC	24 V DC power input
	4	N.C.	-	-	Not used
	5	COV_OPN	I	0/24 V DC	DPILSW: On/Off
YC5	1	DUPLEX_-A	O	0/24 V DC (pulse)	OSBM drive control signal
Connected to the original switch-back motor, original feed motor, original conveying motor and DP lift motor	2	DUPLEX_-B	O	0/24 V DC (pulse)	OSBM drive control signal
	3	DUPLEX_+A	O	0/24 V DC (pulse)	OSBM drive control signal
	4	DUPLEX_+B	O	0/24 V DC (pulse)	OSBM drive control signal
	5	FEED_-A	O	0/24 V DC (pulse)	OFM drive control signal
	6	FEED_-B	O	0/24 V DC (pulse)	OFM drive control signal
	7	FEED_+A	O	0/24 V DC (pulse)	OFM drive control signal
	8	FEED_+B	O	0/24 V DC (pulse)	OFM drive control signal
	9	CONVEY_-A	O	0/24 V DC (pulse)	OCM drive control signal
	10	CONVEY_-B	O	0/24 V DC (pulse)	OCM drive control signal
	11	CONVEY_+A	O	0/24 V DC (pulse)	OCM drive control signal
	12	CONVEY_+B	O	0/24 V DC (pulse)	OCM drive control signal
	13	LFTMOT_+A	O	0/24 V DC (pulse)	DPLM drive control signal
	14	LFTMOT_-A	O	0/24 V DC (pulse)	DPLM drive control signal
	15	LFTMOT_+B	O	0/24 V DC (pulse)	DPLM drive control signal
	16	LFTMOT_-B	O	0/24 V DC (pulse)	DPLM drive control signal
YC6	1	+24V1	O	24 V DC	24 V DC power output to SBPSOL
Connected to the switchback pressure solenoid and switchback feed-shift solenoid	2	PRS_SOL_P	O	0/24 V DC	SBPSOL: On/Off (actuate)
	3	PRS_SOL_R	O	0/24 V DC	SBPSOL: On/Off (return)
	4	+24V2	O	24 V DC	24 V DC power output to SBFSSOL
	5	PRS_SOL_P	O	0/24 V DC	SBFSSOL: On/Off (actuate)
	6	PRS_SOL_R	O	0/24 V DC	SBFSSOL: On/Off (return)

Connector	Pin No.	Signal	I/O	Voltage	Description
YC7	A1	LED_RD	O	0/5 V DC	LED RED control signal
Connected to the LED-PWB, DP timing switch 1/2, original registration switch, original feed switch, tray upper limit switch, tray lower limit switch, original set switch and DP open/close switch	A2	GND	-	-	Ground
	A3	LED_GN	O	0/5 V DC	LED GREEN control signal
	A4	GND	-	-	Ground
	A5	CIS_SW	I	0/5 V DC	DPTSW2: On/Off
	A6	5V	O	5 V DC	5 V DC power output to DPTSW2
	A7	GND	-	-	Ground
	A8	REGSW	I	0/5 V DC	ORSW: On/Off
	A9	5V	O	5 V DC	5 V DC power output to ORSW
	A10	GND	-	-	Ground
	A11	FDSW	I	0/5 V DC	OFSW: On/Off
	A12	5V	O	5 V DC	5 V DC power output to OFSW
	A13	N.C.	-	-	Not used
	A14	N.C.	-	-	Not used
	A15	N.C.	-	-	Not used
	B1	GND	-	-	Ground
	B2	TMG_SW	I	0/5 V DC	DPTSW1: On/Off
	B3	5V	O	5 V DC	5 V DC power output to DPTSW1
	B4	GND	-	-	Ground
	B5	LF_U_SW	I	0/5 V DC	TULSW: On/Off
	B6	5V	O	5 V DC	5 V DC power output to TULSW
	B7	GND	-	-	Ground
	B8	LF_D_SW	I	0/5 V DC	TLLSW: On/Off
	B9	5V	O	5 V DC	5 V DC power output to TLLSW
	B10	GND	-	-	Ground
	B11	SET SW	I	0/5 V DC	OSSW: On/Off
	B12	5V	O	5 V DC	5 V DC power output to OSSW
	B13	GND	-	-	Ground
	B14	DP_OPNSW	I	0/5 V DC	DPOCSW: On/Off
	B15	5V	O	5 V DC	5 V DC power output to DPOCSW
YC8	1	5V	O	5 V DC	5 V DC power output to OLSW
Connected to the original size length switch and original size width switch	2	GND	-	-	Ground
	3	SZ DET	I	0/5 V DC	OLSW: On/Off
	4	EXGND	-	-	Ground
	5	5V	O	5 V DC	5 V DC power output to OWSW
	6	SZ_SW_W	I	0/5 V DC	OWSW: On/Off

Connector	Pin No.	Signal	I/O	Voltage	Description
YC10	1	GND	-	-	Ground
Connected to the original eject switch and switchback tray switch	2	EJ SW	I	0/5 V DC	OESW: On/Off
	3	5V	O	5 V DC	5 V DC power output to OESW
	4	GND	-	-	Ground
	5	TRAY SW	I	0/5 V DC	SBTSW: On/Off
	6	5V	O	5 V DC	5 V DC power output to SBTSW
	7	N.C.	-	-	Not used
	8	N.C.	-	-	Not used
	9	N.C.	-	-	Not used

2-3-2 SHD PWB (dual scan DP only)

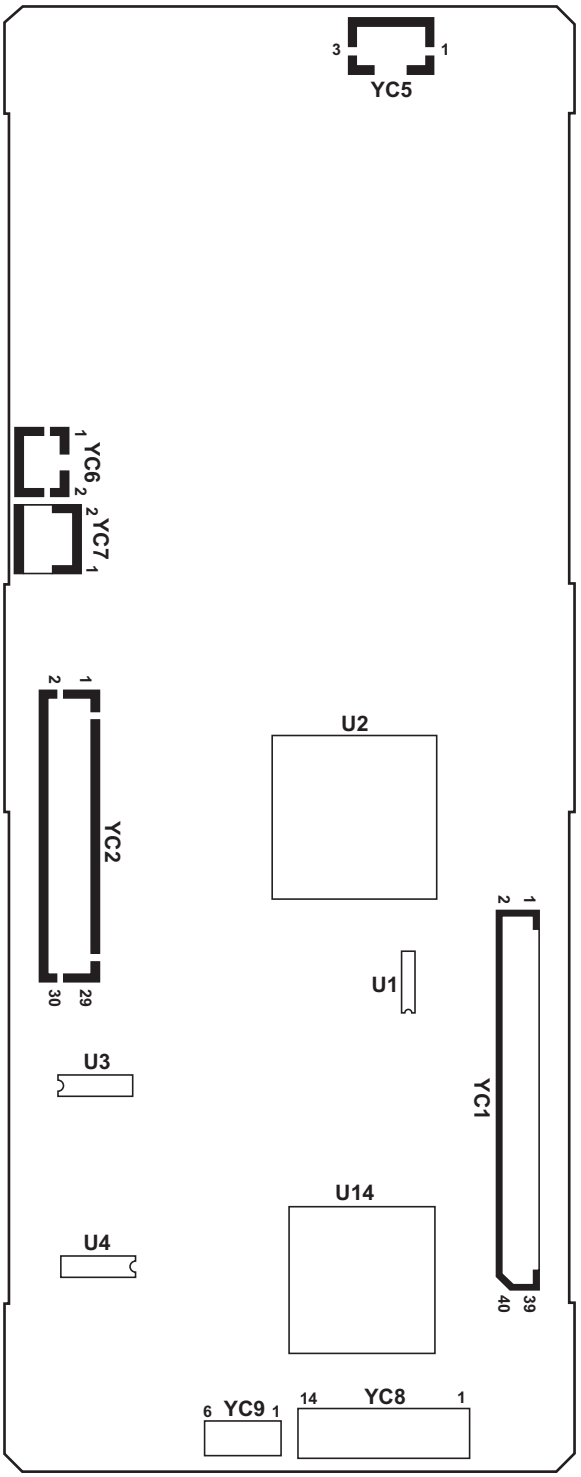

Figure 2-3-3 SHD PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	DVSS	-	-	Ground
Connected to the CIS	2	ICLK	I	0/5 V DC (pulse)	ICLK signal
	3	AVSS	-	-	Ground
	4	AVSS	-	-	Ground
	5	IDATA	I	0/5 V DC	IDATA signal
	6	RGDATA	O	0/5 V DC	RGDATA signal
	7	AVDD	O	DC12V	12 V DC power output
	8	AVDD	O	DC12V	12 V DC power output
	9	RGRDWR	O	0/5 V DC	RGRDWR signal
	10	RGLD	O	0/5 V DC	RGLD signal
	11	DVSS	-	-	Ground
	12	RGCLK	O	0/5 V DC (pulse)	RGCLK signal
	13	DVSS	-	-	Ground
	14	RGOUT	I	0/5 V DC	RGOUT signal
	15	DVDD	O	5 V DC	5 V DC power output
	16	DVDD	O	5 V DC	5 V DC power output
	17	DVDD	O	5 V DC	5 V DC power output
	18	DVDD	O	5 V DC	5 V DC power output
	19	DVDD	O	5 V DC	5 V DC power output
	20	TINT	O	0/5 V DC	TINT signal
	21	LST	O	0/5 V DC	LST signal
	22	DVSS	-	-	Ground
	23	SDEP	I	0/5 V DC (pulse)	Serial communication data signal
	24	SDEN	I	0/5 V DC (pulse)	Serial communication data signal
	25	DVSS	-	-	Ground
	26	SDDP	I	0/5 V DC (pulse)	Serial communication data signal
	27	SDDN	I	0/5 V DC (pulse)	Serial communication data signal
	28	DVSS	-	-	Ground
	29	SCLK1P	I	0/5 V DC (pulse)	Serial data clock signal
	30	SCLK1N	I	0/5 V DC (pulse)	Serial data clock signal
	31	DVSS	-	-	Ground
	32	SDCP	I	0/5 V DC (pulse)	Serial communication data signal
	33	SDCN	I	0/5 V DC (pulse)	Serial communication data signal
	34	DVSS	-	-	Ground
	35	SDBP	I	0/5 V DC (pulse)	Serial communication data signal
	36	SDBN	I	0/5 V DC (pulse)	Serial communication data signal
	37	DVSS	-	-	Ground
	38	SDAP	I	0/5 V DC (pulse)	Serial communication data signal
	39	SDAN	I	0/5 V DC (pulse)	Serial communication data signal
	40	DVSS	-	-	Ground

Connector	Pin No.	Signal	I/O	Voltage	Description
YC2	1	GND5	-	-	Ground
Connected to the DP driver PWB	2	GND4	-	-	Ground
	3	+5V2	I	5 V DC	5 V DC power input from DPDPWB
	4	+5V1	I	5 V DC	5 V DC power input from DPDPWB
	5	INVERTER	I	0/5 V DC	INVERTER signal
	6	SHD_DET	O	0/5 V DC	SHD_DET signal
	7	EESDA	I	0/5 V DC (pulse)	EESDA signal
	8	EESCLK	O	0/5 V DC (pulse)	EESCLK signal
	9	CIS_5VON	I	0/5 V DC	CIS_5VON signal
	10	CIS_12VON	I	0/5 V DC	CIS_12VON signal
	11	CPU_CLK	O	0/5 V DC (pulse)	CPU_CLK signal
	12	CPU_SO	I	0/5 V DC (pulse)	CPU_SO signal
	13	CPU_SI	O	0/5 V DC (pulse)	CPU_SI signal
	14	CPUSEL	I	0/5 V DC	CPUSEL signal
	15	CPURDY	O	0/5 V DC	CPURDY signal
	16	OVMONOUT	O	0/5 V DC	OVMONOUT signal
	17	RGOUT	I	0/5 V DC	RGOUT signal
	18	CIS_EN	I	0/5 V DC	CIS_EN signal
	19	PAGEST	I	0/5 V DC	PAGEST signal
	20	RESETN	I	0/5 V DC	RESET signal
	21	RGDATA	I	0/5 V DC	RGDATA signal
	22	RGRDWR	I	0/5 V DC	RGRDWR signal
	23	RGLD	I	0/5 V DC	RGLD signal
	24	RGCLK	I	0/5 V DC (pulse)	RGCLK signal
	25	+24V2	I	24 V DC	24 V DC power input from DPDPWB
	26	+24V1	I	24 V DC	24 V DC power input from DPDPWB
	27	GND3	-	-	Ground
	28	GND2	-	-	Ground
	29	GND1	-	-	Ground
	30	+R24V	I	24 V DC	24 V DC power input from DPDPWB
YC5	1	+16V_INV	O	16 V DC	16 V DC power output to DPINPWB
Connected to the DP inverter PWB	2	INVREM	O	0/16 V DC	CIS control signal
	3	GND	-	-	Ground
YC6	1	FAN1REM	O	0/24 V DC	DPFM: On/Off
Connected to the DP fan motor	2	+24V	O	24 V DC	24 V DC power output to DPFM

Connector	Pin No.	Signal	I/O	Voltage	Description
YC8	1	OS_SAD1N	O	0/3.3 V DC (pulse)	Serial communication data signal
Connected to the DP relay PWB	2	OS_SAD1P	O	0/3.3 V DC (pulse)	Serial communication data signal
	3	GND	-	-	Ground
	4	OS_SAD2N	O	0/3.3 V DC (pulse)	Serial communication data signal
	5	OS_SAD2P	O	0/3.3 V DC (pulse)	Serial communication data signal
	6	GND	-	-	Ground
	7	OS_SAD3N	O	0/3.3 V DC (pulse)	Serial communication data signal
	8	OS_SAD3P	O	0/3.3 V DC (pulse)	Serial communication data signal
	9	GND	-	-	Ground
	10	OS_SACKN	I	0/3.3 V DC (pulse)	Serial data clock signal
	11	OS_SACKP	I	0/3.3 V DC (pulse)	Serial data clock signal
	12	GND	-	-	Ground
	13	OS_SAD4N	O	0/3.3 V DC (pulse)	Serial communication data signal
	14	OS_SAD4P	O	0/3.3 V DC (pulse)	Serial communication data signal

List of maintenance parts

Maintenance part name		Part No.	Alternative part No.
Name used in service manual	Name used in parts list		
DP original feed belt	BELT PF	303JX07330	3JX07330
DP forwarding pulley	PULLEY LF	3H607020	-
DP separation pulley	PULLEY SEPARATION	303LL07190	3LL07190
Original feed switch	SWITCH REGISTRATION	2FG27110	-
Original registration switch	SWITCH REGISTRATION	2FG27110	-
DP timing switch 2*	SWITCH REGISTRATION	2FG27110	-
Registration roller	PARTS ROLLER REGISTRATION	303LL94090	3LL94090
Registration pulley	PULLEY REGISTRATION	303JX07080	3JX07080
Registration pulley	PULLEY REG B	303JX07340	3JX07340
Upper conveying roller	PARTS ROLLER CONVEYING UPPER	303LL94080	3LL94080
Conveying pulley	PULLEY CONVEYING	3H608200	-
Left conveying roller	PARTS ROLLER CONVEYING LEFT	303LL94060	3LL94060
Conveying pulley	PULLEY CONVEYING	3HL08080	-
Right conveying roller	PARTS ROLLER CONVEYING RIGHT	303LL94070	3LL94070
Conveying pulley	PULLEY CONVEYING	3HL08080	-
Eject roller	PARTS ROLLER EJECT	303LL94100	3LL94100
Eject pulley	PULLEY EXIT	303JX28030	3JX28030
Switchback roller	PARTS ROLLER LOOP	303LL94110	3LL94110
Switchback pulley	PULLEY CONVEYING	3HL08080	-
Feedshift roller	PARTS ROLLER EJECT SHIFT	303LL94120	3LL94120
Feedshift pulley	PULLEY LOOP	3HL10140	-
Reading guide	GUIDE READING	303LL24010	3LL24010
DP timing switch 1	SWITCH REGISTRATION	2FG27110	-
Original eject switch	SWITCH REGISTRATION	2FG27110	-
CIS roller*	PARTS ROLLER CIS	303LK94030	3LK94030
CIS*	PARTS A3 COLOR CIS	303LK93010	3LK93010
Original size length switch	PARTS SENSOR ORIGINAL 4P	303LL94160	3LL94160
Original mat	PARTS MAT ASSY	303LL94030	3LL94030

*: Dual scan DP only.

Periodic maintenance procedures

Section	Maintenance part/location	User call	240K/ 480K/720K	Points and cautions	Page
Test copy and test print	Perform at the maximum copy size	Test copy	Test copy		

Section	Maintenance part/location	User call	240K/ 480K/720K	Points and cautions	Page
Original feed section	DP original feed belt	Clean	Replace	Clean with alcohol. Replace after feeding 240,000 sheets.	P.1-5-2
	DP forwarding pulley	Clean	Replace	Clean with alcohol. Replace after feeding 240,000 sheets.	P.1-5-2
	DP separation pulley	Clean	Replace	Clean with alcohol. Replace after feeding 240,000 sheets.	P.1-5-5
	Original feed switch	Clean	Clean	Air blow or clean with a dry cloth.	
	Original registration switch	Clean	Clean	Air blow or clean with a dry cloth.	
	DP timing switch 2	Clean	Clean	Air blow or clean with a dry cloth.	

Section	Maintenance part/location	User call	240K/ 480K/720K	Points and cautions	Page
Original conveying section	Registration roller	Clean	Clean	Clean with a dry cloth or alcohol.	
	Registration pulley	Clean	Clean	Clean with a dry cloth or alcohol.	
	Upper conveying roller	Clean	Clean	Clean with a dry cloth or alcohol.	
	Left conveying roller	Clean	Clean	Clean with a dry cloth or alcohol.	
	Right conveying roller	Clean	Clean	Clean with a dry cloth or alcohol.	
	Conveying pulley	Clean	Clean	Clean with a dry cloth or alcohol.	
	Eject roller	Clean	Clean	Clean with a dry cloth or alcohol.	
	Eject roller	Clean	Clean	Clean with a dry cloth or alcohol.	
	Switchback roller	Clean	Clean	Clean with a dry cloth or alcohol.	
	Switchback pulley	Clean	Clean	Clean with a dry cloth or alcohol.	
	Feedshift roller	Clean	Clean	Clean with a dry cloth or alcohol.	
	Feedshift pulley	Clean	Clean	Clean with a dry cloth or alcohol.	
	Reading guide	Clean	Clean	Clean with a dry cloth or alcohol.	
	DP timing switch 1	Clean	Clean	Air blow or clean with a dry cloth.	
	Original eject switch	Clean	Clean	Air blow or clean with a dry cloth.	

Section	Maintenance part/location	User call	240K/ 480K/720K	Points and cautions	Page
CIS section	CIS roller	Clean	Clean	Clean with a dry cloth or alcohol.	
	CIS	Clean	Clean	Clean with a dry cloth or alcohol. (Do not clean with nor wet cloth)	

Section	Maintenance part/location	User call	240K/ 480K/720K	Points and cautions	Page
Original table	Original size length switch	Clean	Clean	Air blow or clean with a dry cloth.	

Section	Maintenance part/location	User call	240K/ 480K/720K	Points and cautions	Page
Covers	Covers	Clean	Clean	Clean with alcohol.	
	Original holder mat	Clean	Clean	Clean with a dry cloth or alcohol.	

Section	Maintenance part/location	User call	240K/ 480K/720K	Points and cautions	Page
Other	Image quality	Check Adjust	Check Adjust		

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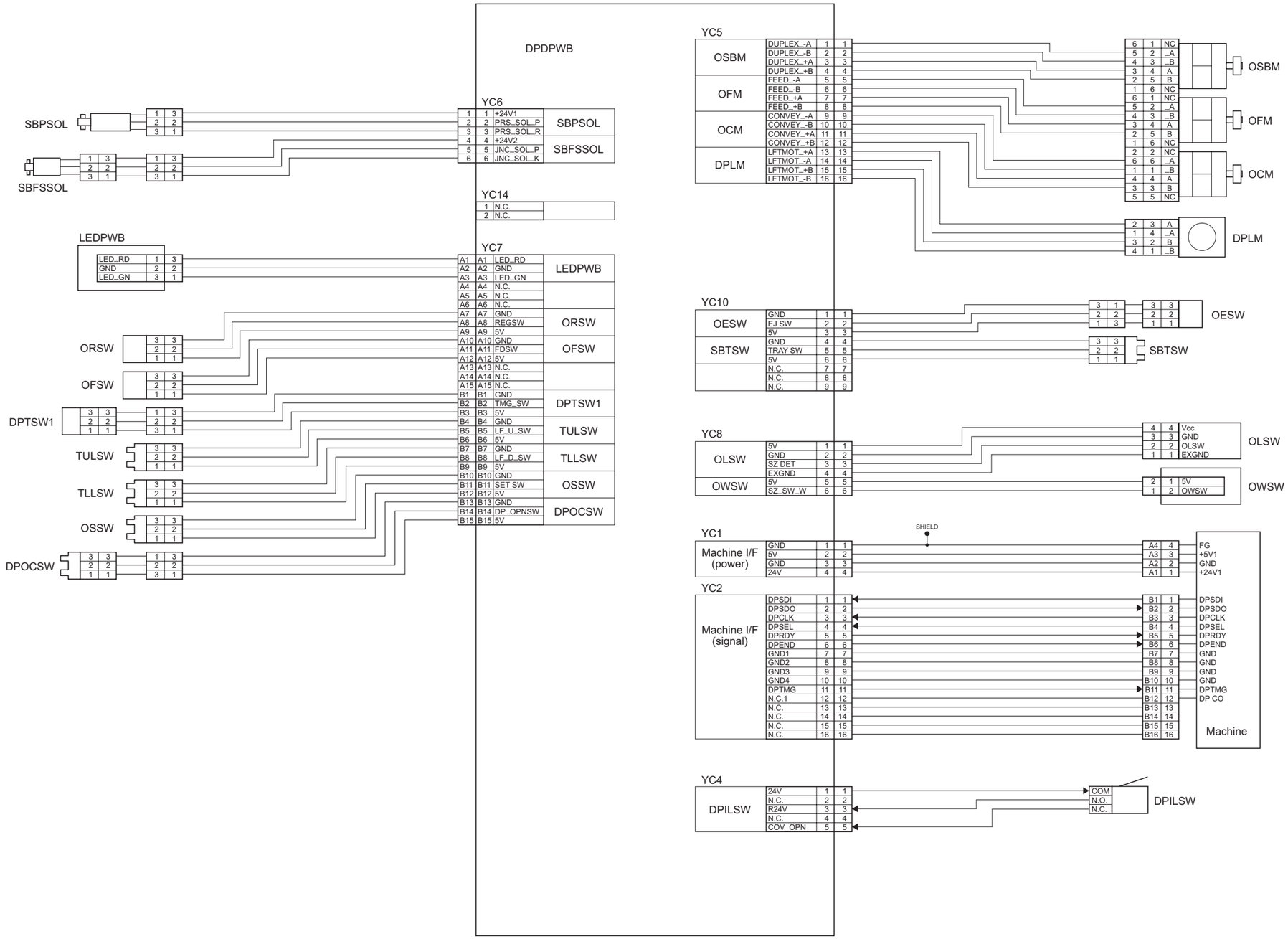
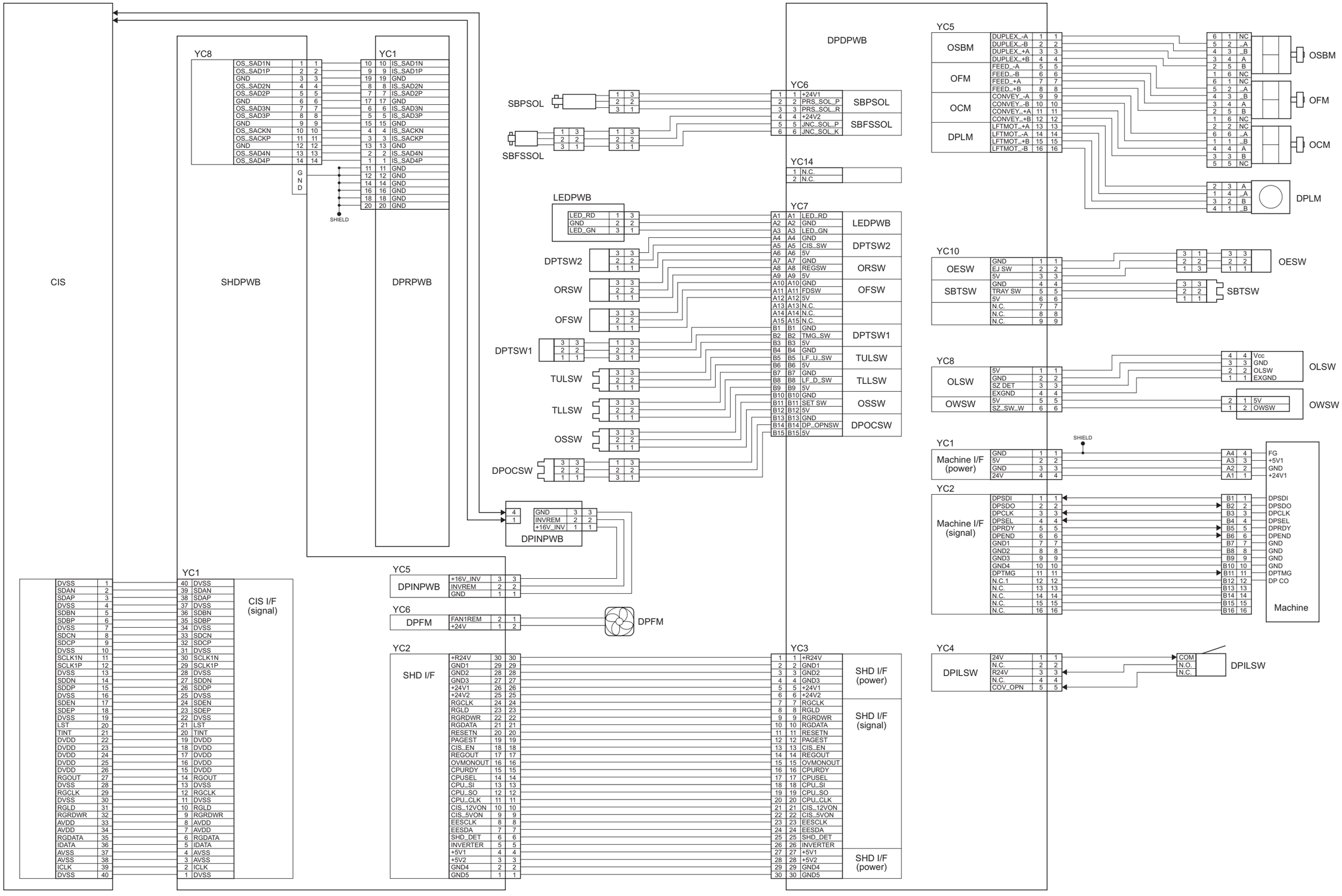
Wiring diagram (reversed DP)



Wiring diagram (dual scan DP)



KYOCERA MITA EUROPE B.V.

Hoeksteen 40, 2132 MS Hoofddorp,
The Netherlands
Phone: +31.20.654.0000
Home page: http://www.kyoceramita-europe.com
Email: info@kyoceramita-europe.com

KYOCERA MITA NEDERLAND B.V.
Beechavenue 25, 1119 RA Schiphol-Rijk
The Netherlands
Phone: +31.20.58.77.200

KYOCERA MITA (UK) LTD
8 Beacontree Plaza
Gillette Way Reading Berks RG2 0BS,
U.K.
Phone: +44.1189.311.500

KYOCERA MITA ITALIA S.p.A.
Via G. Verdi, 89 / 91, 20063 Cernusco s/N
Milano, Italy
Phone: +39.02.92179.1

S.A. KYOCERA MITA BELGIUM N.V.
Hermesstraat 8A, 1930 Zaventem,
Belgium
Phone: +32.2.720.9270

KYOCERA MITA FRANCE S.A.
Parc Les Algorithmes Saint Aubin
91194 GIF-SUR-YVETTE,
France
Phone: +33.1.6985.2600

KYOCERA MITA ESPAÑA S.A.
Edificio Kyocera, Avda de Manacor No. 2,
28290 Las Matas (Madrid),
Spain
Phone: +34.91.631.8392

KYOCERA MITA FINLAND OY
Kirvesmiehenkatu 4, 00880 Helsinki,
Finland
Phone: +358.9.4780.5200

KYOCERA MITA (SCHWEIZ)
Hohlstrasse 614, 8048 Zürich
Switzerland
Phone: +41.1.908.4949

KYOCERA MITA DEUTSCHLAND GMBH
Otto-Hahn-Str. 12 D-40670 Meerbusch,
Germany
Phone: +49.2159.918.0

KYOCERA MITA GMBH AUSTRIA
Eduard-Kittenberger-Gasse 95,
1230 Wien,
Austria
Phone: +43.1.86338.210

KYOCERA MITA SVENSKA AB
Esbogatan 16B 164 75 Kista,
Sweden
Phone: +46.8.546.55000

KYOCERA MITA NORGE
Postboks 150 Oppsal, NO 0619 Oslo
Olaf Helsetsvei 6, NO 0694 Oslo,
Norway
Phone: +47.22.62.73.00

KYOCERA MITA DANMARK A/S
Ejby Industrivej 1, DK-2600 Glostrup,
Denmark
Phone: +45.5687.1100

KYOCERA MITA PORTUGAL LDA.
Rua do Centro Cultural, 41 (Alvalade) 1700-106 Lisbon,
Portugal
Phone: +351.21.842.9100

KYOCERA MITA SOUTH AFRICA (PTY) LTD.
527 Kyalami Boulevard,
Kyalami Business Park Midrand,
South Africa
Phone: +27.(0)11.540.2600

KYOCERA MITA AMERICA, INC.

Headquarters:
225 Sand Road,
Fairfield, New Jersey 07004-0008,
U.S.A.
Phone: (973) 808-8444

KYOCERA MITA AUSTRALIA PTY. LTD.
Level 3, 6-10 Talavera Road, North Ryde,
N.S.W. 2113 Australia
Phone: (02) 9888-9999

KYOCERA MITA NEW ZEALAND LTD.
1-3 Parkhead Place, Albany
P.O. Box 302 125 NHPC, Auckland,
New Zealand
Phone: (09) 415-4517

KYOCERA MITA (THAILAND) CORP., LTD.
9/209 Ratchada-Prachachem Road,
Bang Sue, Bangkok 10800, Thailand
Phone: (02) 586-0320

KYOCERA MITA SINGAPORE PTE LTD.
121 Genting Lane, 3rd Level,
Singapore 349572
Phone: 67418733

KYOCERA MITA HONG KONG LIMITED
11/F., Mita Centre,
552-566, Castle Peak Road,
Tsuen Wan, New Territories,
Hong Kong
Phone: 24297422

KYOCERA MITA TAIWAN Corporation.
7F-1~2, No.41, Lane 221, Gangchi Rd.
Neihu District, Taipei, Taiwan, 114. R.O.C.
Phone: (02) 87511560

KYOCERA MITA Corporation

2-28, 1-chome, Tamatsukuri, Chuo-ku
Osaka 540-8585, Japan
Phone: (06) 6764-3555
http://www.kyoceramita.com

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KYOCERA MITA AMERICA, INC.

Headquarters:
225 Sand Road,
Fairfield, New Jersey 07004-0008
TEL : (973) 808-8444
FAX : (973) 882-6000

New York Branch:
1410 Broadway 23rd floor
New York, NY 10018
TEL : (917) 286-5400
FAX : (917) 286-5402

Northeastern Region:
225 Sand Road,
Fairfield, New Jersey 07004-0008
TEL : (973) 808-8444
FAX : (973) 882-4401

Midwestern Region:
201 Hansen Court Suite 119
Wood Dale, Illinois 60191
TEL : (630) 238-9982
FAX : (630) 238-9487

Western Region:
14101 Alton Parkway,
Irvine, California 92618-7006
TEL : (949) 457-9000
FAX : (949) 457-9119

Southeastern Region:
1500 Oakbrook Drive,
Norcross, Georgia 30093
TEL : (770) 729-9786
FAX : (770) 729-9873

Southwestern Region:
2825 West Story Road,
Irving, Texas 75038-5299
TEL : (972) 550-8987
FAX : (972) 252-9786

National Operation Center
& National Training Center:
2825 West Story Road,
Irving, Texas 75038-5299
TEL : (972) 659-0055
FAX : (972) 570-5816

Latin America Division:
8240 N.W. 52nd. Terrace Dawson Building,
Suite 108 Miami, Florida 33166
TEL : (305) 421-6640
FAX : (305) 421-6666

KYOCERA MITA CANADA, LTD.

6120 Kestrel Road, Mississauga,
Ontario L5T 1S8, Canada
TEL : (905) 670-4425
FAX : (905) 670-8116

KYOCERA MITA MEXICO, S.A. DE C.V.

Av. 16 de Septiembre #407
Col. Santa Inés,
Azcapotzalco México,
D.F. 02130, México
TEL : (55) 5383-2741
FAX : (55) 5383-7804

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